Transportation Library

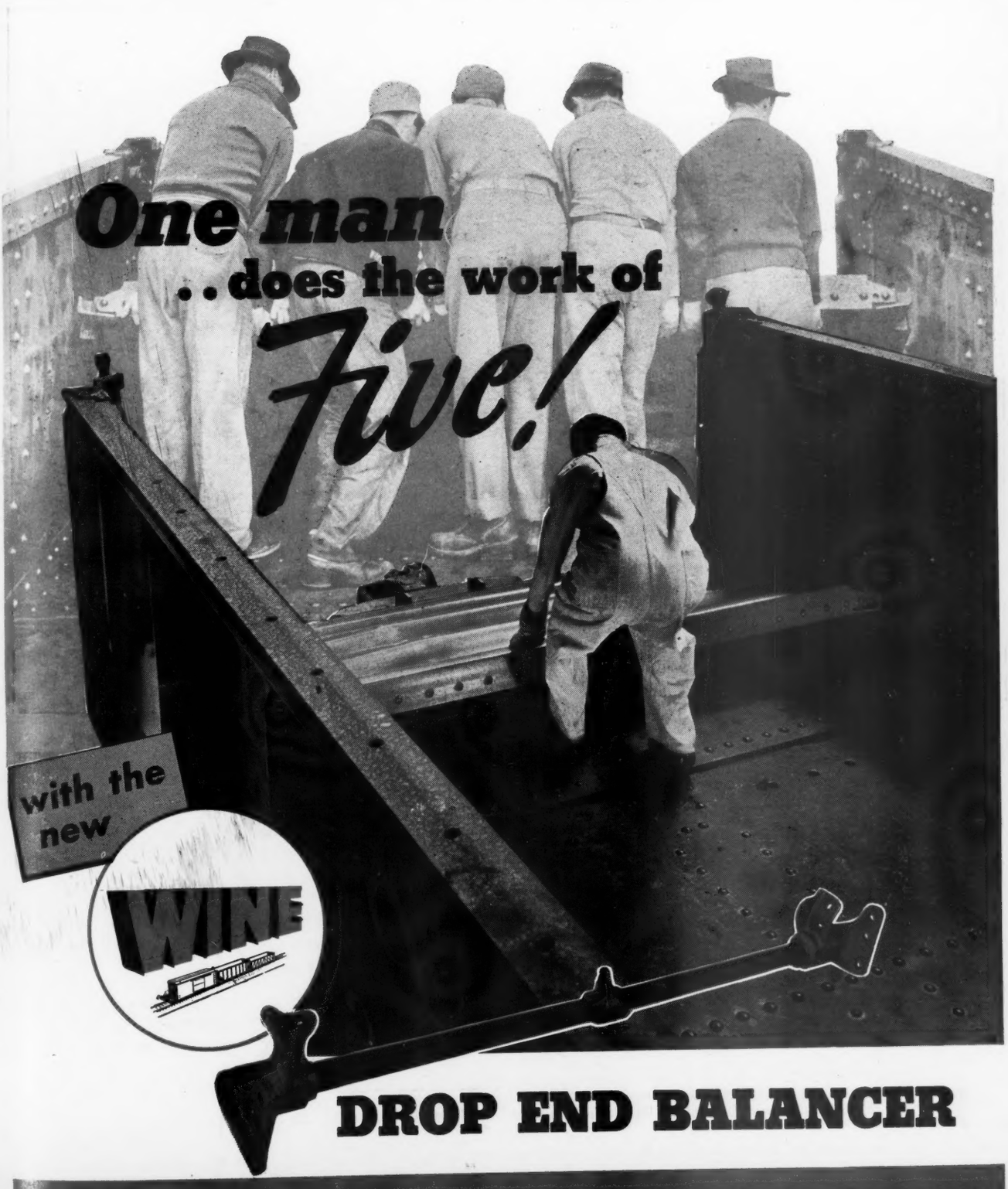
SEP 16 1947

RAILWAY AGE

SEPTEMBER 13, 1947

FOUNDED IN 1856

TRANSPORTATION LIBRARY



The Sign of QUALITY

Esso

The Symbol of SERVICE

MILLIONS OF MILES TOGETHER

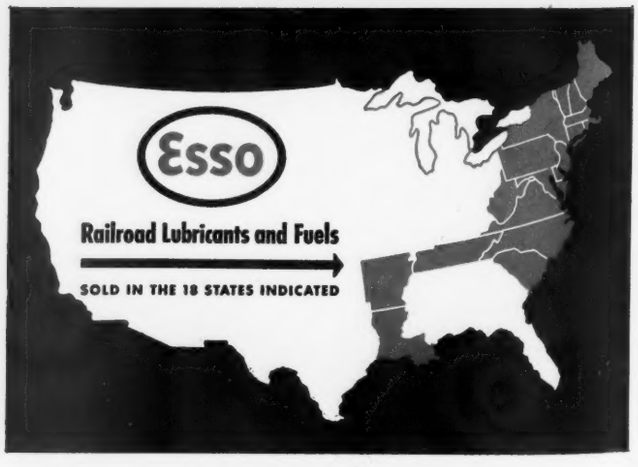
. . . Esso Railroad Fuels and Lubricants have established performance and protection records on America's leading railroads. Developed in the great Esso Laboratories, often in advance of railroad requirements, these fine products are made to work with dependability and economy.

STANDARD OIL COMPANY OF NEW JERSEY

Elizabeth, N. J.	Charleston, W. Va.	New Orleans, La.
Baltimore, Md.	Charlotte, N. C.	Little Rock, Ark.
Richmond, Va.	Columbia, S. C.	Memphis, Tenn.

STANDARD OIL COMPANY OF PENNSYLVANIA
Philadelphia, Pa.

COLONIAL BEACON OIL COMPANY
Boston, Mass. — New York, N. Y.



You are invited to visit the Esso exhibit at the Railroad Supply Show at Atlantic City, June 23-28.

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 50 cents each. Vol. 123, No. 11.

Railway Age

With which are incorporated the Railway Review, the Railway Gazette, and the Railway-Age Gazette. Name registered in U. S. Patent Office.

Vol. 123 — September 13, 1947 — No. 11

PUBLISHED EACH SATURDAY BY THE SIMMONS-BOARDMAN PUBLISHING CORPORATION, 1309 NOBLE STREET, PHILADELPHIA 23, PA., WITH EDITORIAL AND EXECUTIVE OFFICES AT 30 CHURCH STREET, NEW YORK 7, N. Y., AND 105 W. ADAMS STREET, CHICAGO 3, ILL.

WASHINGTON 4, D. C.: 1081 NATIONAL PRESS BUILDING—CLEVELAND 13, TERMINAL TOWER—SEATTLE 1: 1033 HENRY BUILDING—SAN FRANCISCO 4: 300 MONTGOMERY STREET, ROOMS 805-806—LOS ANGELES 14: 530 WEST 6th STREET—DALLAS 4: 2909 MAPLE AVENUE.

SAMUEL O. DUNN, CHAIRMAN. JAMES G. LYNE, VICE-PRESIDENT—ASSISTANT TO CHAIRMAN. HENRY LEE, PRESIDENT. ROY V. WRIGHT, VICE-PRESIDENT AND SECRETARY. C. MILES BURPEE, F. H. THOMPSON, F. C. KOCH, R. E. THAYER, H. E. McCANDLESS, S. WAYNE HICKEY, VICE-PRESIDENTS. J. T. DeMOTT, TREASURER, RALPH E. WESTERMAN, ARTHUR J. McGINNIS, ASSISTANT TREASURERS.

SAMUEL O. DUNN, EDITOR. JAMES G. LYNE, ASS'T TO EDITOR. ROY V. WRIGHT, MANAGING EDITOR. C. B. TAVENNER, ASS'T MANAGING EDITOR. NEAL D. HOWARD, WESTERN EDITOR. C. B. PECK, ALFRED G. OEHLER, E. L. WOODWARD, J. H. DUNN, H. C. WILCOX, CHARLES LAYNG, WALTER J. TAFT, M. H. DICK, W. H. SCHMIDT, Jr., C. L. COMBES, MAURICE PEACOCK, SHERMAN DAVIS, FRED C. MILES, WALTER L. TURNER, Jr., G. J. WEIHOFEN, GEORGE JOHNSON, HENRY E. MICHAEL, ROBERT G. LEWIS, JOHN W. MILLIKEN. LIBRARIAN: EDITH C. STONE. EDITORIAL ASSISTANT: ELAINE C. FARRAR.

C. MILES BURPEE, BUSINESS MANAGER.

SUBSCRIPTIONS INCLUDING 52 REGULAR WEEKLY ISSUES, AND SPECIAL DAILY EDITIONS PUBLISHED FROM TIME TO TIME IN NEW YORK OR IN PLACES OTHER THAN NEW YORK, PAYABLE IN ADVANCE AND POSTAGE FREE. UNITED STATES, U. S. POSSESSIONS AND CANADA: 1 YEAR, $6.00; 2 YEARS, $10.00; OTHER COUNTRIES NOT INCLUDING DAILY EDITIONS: IN WESTERN HEMISPHERE 1 YEAR $10.00; 2 YEARS $16.00; OTHER COUNTRIES 1 YEAR $15.00; 2 YEARS $25.00. SINGLE COPIES, 50 CENTS EACH. H. E. McCANDLESS, CIRCULATION MANAGER, 30 CHURCH STREET, NEW YORK 7.

In This Issue

Page

An All-Purpose Shop for Diesel Power **62**

New facilities at Macon, Ga., constructed by the Central of Georgia in an existing building, comprise a complete plant for servicing and repairing road and switching locomotives.

Study Board Reports Its Achievements **67**

Final report of investigations by the Railroad Committee for the Study of Transportation under the leadership of R. V. Fletcher.

Mechanization of Freight Station Simplifies L. C. L. Handling **70**

Extensive use of battery-powered electric trucks and cranes enables P. & L. E. to cope with increased traffic and meet heavy loading requirements at Pittsburgh, Pa.

EDITORIALS

Railway Efficiency, Costs and Rates 59
Carloadings Again a Useful Business Index 60
Neglected Ideas Produce No Savings 61
Shop Engineering 61

GENERAL ARTICLES

An All-Purpose Shop for Diesel Power 62
Study Board Reports Its Achievements 67
Mechanization of Freight Station Simplifies L. C. L. Handling 70
Roads Ask Quick Freight-Rate Increase 73
N. & W. Installs C. T. C. on 107 Miles 75
June Purchases 3 Per Cent Above May 78
1,500-Hp. Diesel-Electric Road Switcher 82
Washer for Electric Locomotives 84

NEW DEVICES ..... **66 & 84**

GENERAL NEWS **86**

FREIGHT OPERATING STATISTICS **102**

Railway Age is a member of Associated Business Papers (A. B. P.) and Audit Bureau of Circulation (A. B. C.), and is indexed by the Industrial Arts Index and by the Engineering Index Service.

★

PRINTED IN U. S. A.

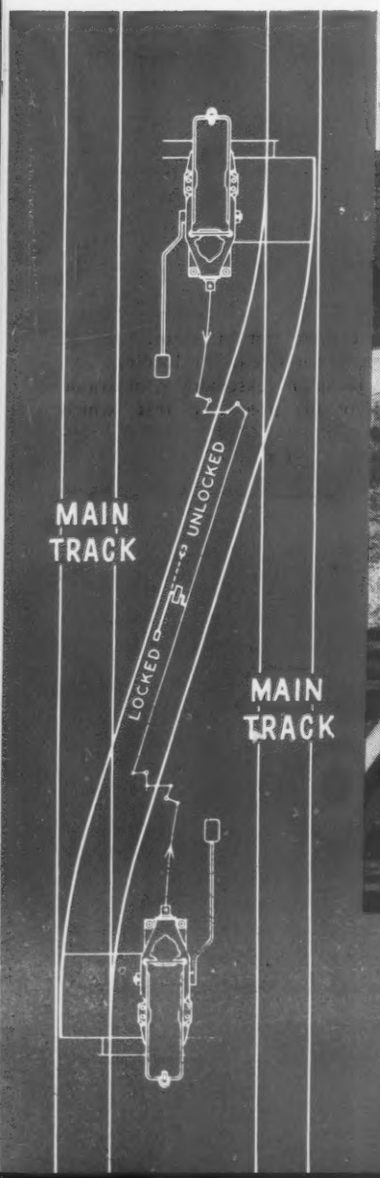
FOR CROSSOVERS
BETWEEN MAIN TRACKS—

"UNION" Switch Stands

Here is another way "Union" T-20 and T-21 Switch Stands provide extra protection and safety at mainline, hand-operated switches . . .

The independent lock bars of the two T-21 Switch Stands are operated through the pipe line connection by a center-of-crossover lever. Thus, neither switch can be reversed until the independent lock bars have been withdrawn by reversing the center-of-crossover lever. And, since each switch stand in this particular arrangement is equipped with a lock rod having a normal notch only, both switches must be in their normal positions before the locking can be restored by the center-of-crossover lever.

Where electric locking is used, only one electric lock is required . . . installed on the normal position side of the center-of-crossover lever stand.



UNION SWITCH & SIGNAL COMPANY

SWISSVALE PENNSYLVANIA

NEW YORK · CHICAGO · ST. LOUIS · SAN FRANCISCO

The Week at a Glance

HIGH GEAR ACTION: In its disposition of the Pullman sleeping car fare increase proposal the commission acted with almost as much promptness as if it had been a government agency approving a wage increase. As a result Pullman is issuing tariffs to make the higher charges effective October 1. As the report in our news pages indicates, authority was granted without argument in the form of a "special permission."

●

ENCYCLOPEDIA: What A. A. R. President Faricy calls a "veritable encyclopedia of information," the "most comprehensive survey of railroad problems and activities ever undertaken," is the final summary report of the Railroad Committee for the Study of Transportation, which for five years has been effectively investigating, under Judge Fletcher's leadership, every phase of railroad management and operation. The digest of the committee's conclusions which appears herein (page 67) only suggests the wide range of its research and the objective thoroughness with which the results have been analyzed and their significance interpreted.

●

WHERE THE RAILROADS LAG: Railroad efficiency can be measured in terms of ton-miles and passenger-miles produced per employee. Their output per man last year, as compared to 1929, was 58 per cent greater in ton-miles and 156 per cent greater in passenger-miles. While this was going on, our leading editorial points out, the average hourly wage paid railroad employees had gone up 75 per cent—this does not include the September 1 raise allowed the non-ops—while the increase in the cost of materials is indicated by the advance of more than 100 per cent in the wholesale prices of commodities since 1939. In the face of these developments the railroads' net earnings, in a period of record peacetime traffic, are at depression levels. The shippers' spokesmen who are now arguing against a freight rate increase—which if authorized to the full extent sought by the railroads would result in rates only 47 per cent over the 1939 level—cannot find in this record any good ground for asserting that the railroads have not progressed in performance, or that the railroads' expenses have not out-run their lagging revenues. All they can assert is that it would be sinful to allow the railroads to make a profit—and they must argue this in the face of an avalanche of reports of record-high profits in almost every other line of business.

●

SHIPPERS' TACTICS: That a surprising number of the shippers' lawyers plan to use this argument against the freight rate increase proposed by the railroads in Ex Parte 166 is clear from their tactics at the opening sessions of the hearings in that case, reported in this issue on page 73. The longer they can avert action by the commission the longer their principals can profit, at the railroads' expense, by shipping products selling at 1947 prices on rates at prewar levels. The commission's past record in dealing with rate increase proposals in the face of obviously impaired railroad earnings has been one of ponderous procrastination, but even the commission has been moved, over shipper lawyers' objections, to take some notice of the predicament the railroads are left in by the arbitrators' wage award to the non-ops. As a result, it will hear evidence and arguments on the railroads' plan to raise rates 10 per cent (to match the wage hike) as an emergency measure, to be effective in the interim while their proposals for a 27 per cent general increase are under consideration.

●

ATTACK ON PROFITS: In the opening discussions of the rate increase proposals the opposition made it clear that its main line of attack will be based on the strange philosophy that the railroads, unlike all the other forms of private enterprise, have no legal or moral right to make a profit in the operation of their business, or to pay any dividends to the private investors who have put up the money to build and improve the railroads. The opposition argues that it is all right for a producer of fruit or gum boots or chemicals or corn or cotton or overalls to make a profit, but all wrong for a railroad. The railroads argue that they are entitled to the judicially established reasonable rate of return. The commission is the arbiter. Strangely enough, while shippers' counsel are conspicuous in trying to demonstrate the iniquity of a profit when it is earned by a railroad, much of the opposition to the rate increase comes from the state commissioners' lawyer. Foresighted selfishness would lead shippers to support, not to oppose, the railroads' position, because it is the shippers who will lose most if the railroads are not allowed to earn enough to maintain employment, to sustain their credit, and to enlarge their facilities so they can continue to render the most efficient transportation service.

●

AID FOR THE BRISTOL LINE: One way to increase the capacity of a busy single-track line traversing rolling country would be to reduce grades and curvature and extend double track. This procedure would be prohibitively expensive on the Norfolk & Western's 107-mile Bristol line, part of the Washington-to-Chattanooga through route operated in connection with the Southern. A less costly and fully efficient alternate solution was available, however, in the installation of centralized traffic control. The lay-out of this time-saving and train-speeding application is the subject of an illustrated article (page 75). The modernization of the automatic signaling which was carried out in conjunction with the C. T. C. installation included an effective arrangement for the detection of slides and rock falls.

●

IN BRIEF: A "wildcat" strike of trainmen tied up the Union. . . . The New York Central's 64-seat Budd-built diners are going into service. . . . The Class I roads' July net was about $37 million.

FREIGHTHOUSE POWER: Just a few years ago there were a lot of people who had succeeded in convincing themselves, and were using every persuasive artifice in an endeavor to convince everyone else, that the railroads were on the brink of losing every last pound of their merchandise freight business to the intercity truckers. Those people might find it worth while to drop in at any important freighthouse today, to see what a flood of package freight the railroads are contending with, and to see the efficiency with which these shipments are being handled, even in overtaxed quarters, where modern mechanized equipment is available. An illustrated article in this issue outlines the methods used by the Pittsburgh & Lake Erie at its Pittsburgh freighthouse to keep the freight moving with a minimum of hand labor.

●

VERSATILE DIESEL: A description appears in this issue of the 1,500-hp. Diesel-electric road switcher, produced by American Locomotive and General Electric, which with 65 m.p.h. gearing has a continuous tractive force of 42,500 lb. Designed for switching, transfer or passenger operations, this locomotive is characterized by equipment that holds engine speeds to preset values and limits generator demand to engine output, thus relieving the engineman of much of the responsibility in manipulating his controls to secure maximum performance.

●

SIGNIFICANT FIGURES: Back in the early Thirties railroad carloadings fluctuated as the national production of commodities fluctuated, and the loadings totals, available when they are less than a week old, formed a useful and dependable index to business trends. The loadings totals lost this significance during the war when normal loading and operating practices were thrown out of kilter. One of our editorials shows how the loadings figures now are again reasonably comparable with those of the preceding year, which means that they are again a useful index to the trends of the nation's business.

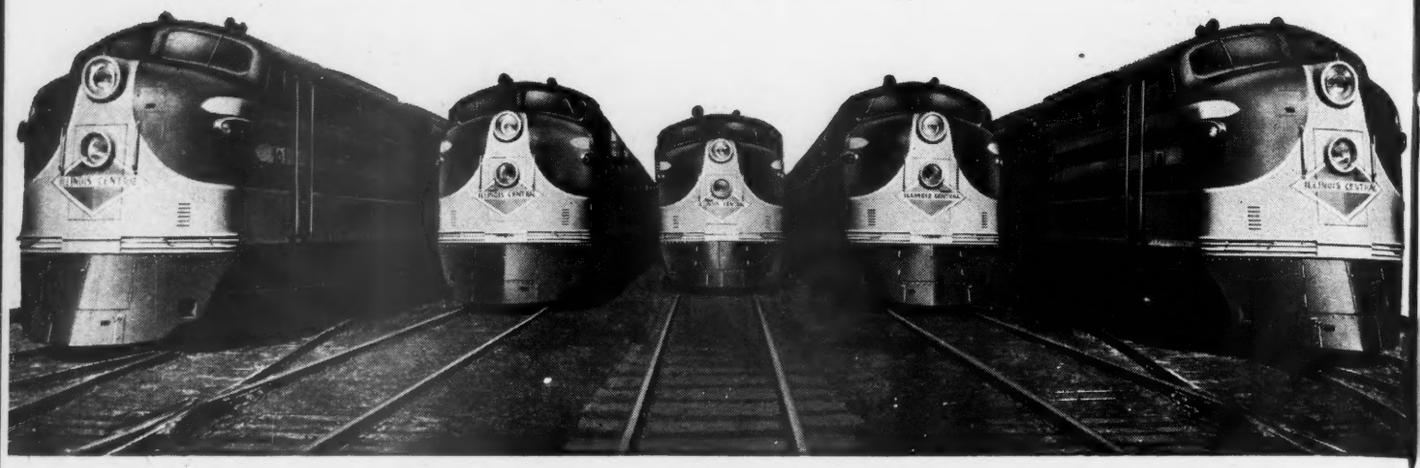
●

BUYING WAVERS: June expenditures by the railroads for rails, ties, fuel and other materials and supplies were a little below May, measured in terms of dollars, but obligations undertaken for new equipment brought the total volume of purchases for the first half of 1947 to more than $1¼ billion. Comparative figures are given in the article on page 78 this week.

●

DIESEL SHOP AT MACON: The Central of Georgia was in a position to provide itself with a complete and compact plant for servicing and repairing its Diesel-electric road locomotives and switchers by converting to that purpose a part of an existing brick and steel-frame shop building at Macon, Ga., a central point on the system for Diesel operations. An article in this issue describes the conversion and outlines the arrangement of the facilities provided in the new shop.

FIVE OF A KIND—



ALL ACES

FIVE General Motors Diesel locomotives in passenger service on the Illinois Central since October 1940 have accumulated more than a million and a half miles each from the time they were placed in service to May 31, 1947.

The uniform dependability of these five locomotives in every kind of weather is marked by an average availability of 96.5% throughout 71 months of service. Often they operated at 100% availability for months at a time.

These five "aces" are the forerunners of an Illinois Central fleet that now includes 19 GM Diesel passenger locomotives, 14 more having been added a year ago. Like their predecessors, the new units are off to a flying start with mileages averaging approximately a quarter million miles per year.

The Illinois Central is one of more than 85 railroads and heavy industries which are finding that GM Diesels represent even more than today's best railroading — that this modern motive power also points to the better railroading of tomorrow.

MILEAGE RECORDS OF 5 GM DIESELS ON ILLINOIS CENTRAL

Loco. No.	Month Delivered	Total Miles Operated	Average Miles Operated Per Month	Per Cent Availability**
4000	10-40	1,513,608	19,160	91.7
4001	12-41	1,633,848	24,755	97.4
4002	12-41	1,593,421	24,514	98.0
*4003	12-41	1,636,570	24,797	97.4
*4004	12-41	1,629,305	25,066	98.0
	Total	8,006,752	23,480 (Av.)	96.5 (Av.)

*Locomotive units 4003 and 4004 prior to September 1946 operated with units 4001 and 4002.

**Availability average computed to September 1, 1946. Locomotives have operated in pool service since that date.

Total unit-months service—341.

GENERAL MOTORS LOCOMOTIVES

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS — LA GRANGE, ILL.

RAILWAY AGE

Railway Efficiency, Costs and Rates

The welfare of the railways and of those dependent on them for more and better transportation, especially producers and shippers, demands that the Interstate Commerce Commission act as expeditiously in granting the petition of the railways for an advance in freight rates as did the arbitration board in settling the recent wage dispute between the railways and their non-operating employees, and as did the Commission itself in recently authorizing an advance in sleeping car rates. Shippers will disregard their own plain interest if they hinder expeditious action.

Throughout 1947, following the advance in freight rates made on January 1, the trend of railway net operating income has been downward. Net operating income was earned in the first quarter of the year at an annual rate of about $940 million but in the second quarter at a rate of only about $880 million. This downward trend has been due to several causes, including decline in passenger earnings and increases in prices of materials and fuel.

Railways Making Depression Net Earnings

Apparently net operating income in the entire year would have been less than $800 million if the advance in wages effective on September 1 had not been made. This advance in wages will add about $150 million to operating expenses in the last third of the year. Hence, without a further increase in rates soon, net operating income in 1947 apparently will not exceed $650 million. The advance of 15½ cents an hour to non-operating employees is costing at a rate of about $440 million a year, and an equal advance to all employees would cost about $565 million. And these facts take no account of the possibility—a remote possibility, it is to be hoped—that the operating employees may get some of the 44 additional featherbedding rules which they are demanding.

The continuance of the inability of the railways to provide adequate and satisfactory service in handling all the freight traffic they are being offered demonstrates that they have more need, in the public interest, of improvement and expansion than any other major industry. But while other industries are under attack for making undue profits, the railways are deriving only depression net earnings from the largest peacetime traffic in history. In the 10 years ending with 1930, their annual net operating income averaged $1,017 million. In the five years ending with 1929 it averaged $1,185 million. Even in the depression decade, 1931-1940, inclusive, it averaged $521 million. In 1946, because of the Commission's indefensible delay in authorizing advances in rates it was only $619 million, including cutbacks in federal taxes. The railways cannot carry out the needed large program of improvements and expansion with depression net earnings.

Great Increase in Operating Efficiency

After the recent arbitration award of higher wages to the non-operating employees, the railways increased from about 17 per cent to about 27 per cent the increase in freight rates they had asked the Commission to authorize. This would make average revenue per ton-mile about 47 per cent higher than in 1939—certainly not a large increase as compared with that of more than 100 per cent that has been made in the wholesale prices of commodities.

The need of the railways for large advances in rates has not been caused by lack of progress in technological development or efficiency in operation. The best test of technological progress and management in an industry over a period of years is output per employee. The railways produce ton-miles and passenger-miles. Their output *per employee* of ton-miles in 1946 was 58 per cent greater and of passenger-miles 156 per cent greater than in 1929. Considering one passenger-mile equivalent to two ton-miles, their output of total traffic units *per employee* was 69 per cent greater in 1946 than in 1929. Unfortunately for the railroads, the increase of 69 per cent in output per employee had been accompanied before September 1 by an advance of 75 per cent in the average hourly wage paid by them; and an increase of 15½ cents an hour to all employees would make the average hourly wage 98 per cent higher than in 1929.

We doubt if any other large industry, even with better opportunity, has made a better record of increase

in efficiency. The increase in railway operating expenses has been due entirely to advances in wages and in the prices of materials and fuel. The two other principal influences curtailing net earnings have been a huge increase in taxes and failure of the government to authorize timely and substantial advances in rates.

Carloadings Again a Useful Business Index

The weekly figures of railroad carloadings—which afford the quickest index available of the volume of national production and transportation—have now regained their comparability, and hence their significance. On the strength of the dependable comparability of these loadings figures it can be asserted with complete assurance that the volume of production and transportation in this country as recently as the four weeks ended August 23 was running, at a minimum, 2 per cent greater than in the comparable period of 1946. There is, in short, not the remotest evidence of any incipient "recession" in business, but quite the contrary.

How the carloadings figures lost their comparability —and hence their significance as an index of production and transportation—and how they have now regained it, are shown by the figures in the accompanying table.

The loadings figures for the first 21 weeks of each year 1929 to date have been divided in this table into the revenue ton-miles totals for the first five months of the same years; the resulting quotient, shown in the third column, is an approximate average of tons hauled one mile for each car loaded. The figure is not exact because the first 21 weeks do not wholly coincide with the first five months, but it is entirely satisfactory for comparing from year to year the average transportation performed per car loaded, because it is computed in exactly the same way for each year.

It will be seen from the figures in this third column that the average tons hauled one mile for each car loaded were 8,780 in 1929 and 8,667 in 1933—a variation of only a little more than 1 per cent. The obvious inference from such a slight variation is that the *carload was a dependably uniform unit* throughout that five-year period. That is to say, the observer of national production and transportation trends in that period could have judged what was going on just about as accurately from the loadings figures, which are available when they are less than a week old, as he could from the totals of revenue ton-miles, which take more than two months to compile.

By 1939, however, the revenue tons carried one mile per car loaded were 12 per cent greater than in 1929—so carloadings totals of 1939 had lost their comparability with those of 1929, although the 1939 figures might still have been significantly compared with those of 1938 since the "appreciation" of the ton-mile content of the carload was only about 2 per cent from 1938 to 1939.

When the war came on the ton-miles per car loaded soared—attaining in 1944 an "appreciation" of 84 per cent over 1939. Comparison of carloadings, therefore, of any of the war years with those of any of the prewar years could yield no information of any significance. Careful analysts were thus forced to restrain their curiosity and wait until the slow-to-come totals of revenue ton-miles were available before they could determine for a certainty just what was occuring in the volume of transportation output.

When the war ended the average ton-mile content of a carload declined (16 per cent from 1944 to 1947)—but, as the table shows, the ton-miles in a 1947 carload vary only 3 per cent from 1946. It follows that the current loadings totals are reasonably comparable with those of last year. The fact that they were running about 2 per cent above those of last year as recently as August 23 affords reliable and up-to-date proof that no decline in the nation's volume of production and transportation has yet occurred, and that the trend of business is still upward.

The fact that the average ton-mile content of the carload should have shown a small increase in the early months of this year is doubtless explained largely by the fact that there was a coal strike last year. Quite likely, the average ton-miles per carload since May are a much closer match for those of 1946 than was the case in the earlier months.

The comparison of current loadings, of course, can be safely made only with those of last year. If, for instance, the attempt is made to compare them with the 1929 totals, 1929 still *seems* to hold the record

Variations in Transportation Performance Per Car Loaded

Year	Aggregate Car-loadings 1st 21 weeks (millions)	Revenue Ton-Miles 1st 5 Mos. (billions)	Revenue Ton-Mi. per Carload
1929	20.4	178.7	8,780
1930	18.6	160.2	8,604
1931	15.4	131.7	8,571
1932	11.7	98.0	8,414
1933	10.4	90.3	8,667
1934	12.4	111.2	9,891
1935	12.1	112.1	9,242
1936	13.3	128.8	9,716
1937	15.3	152.8	10,002
1938	11.5	110.7	9,647
1939	12.1	119.6	9,858
1940	13.4	142.8	10,874
1941	15.7	170.1	10,813
1942	17.0	236.3	13,898
1943	16.3	292.0	17,883
1944	16.9	307.0	18,117
1945	16.9	302.4	17,878
1946	15.0	222.6	14,885
1947	17.3	264.7	15,306

Sisyphus, 1947

During the early postwar months, before price controls were removed, many industries found themselves faced with a situation that was new in their experience. They found themselves confronted with the dilemma of trying to make a profit when their prices were ceilinged but costs were mounting steadily. . . . Industries that went through that experience were getting a mild taste of a problem that is all too familiar with the railroads. . . .

If precedent means anything the [operating] brotherhoods, like the non-operating unions, will get part, at least, of their demands. Then will come the arduous and time-consuming task for the railroads of obtaining rate increases to cover the additional costs. By that time, again assuming that the historic pattern repeats itself, labor will have formulated, and perhaps even served, new wage demands. Truly, the railroads occupy a unique niche in the gallery of industry. They might be described as an "unsheltered monopoly." And if it be retorted that this is a contradiction in terms, then we can only say: So is the economic concept under which the railroads are treated as private enterprise on one side of the ledger and regulated monopoly on the other.

—*The New York Times*

(20.4 million cars in the first 21 weeks of 1929 and only 17.3 million in that period of 1947). However, to move the ton-miles that the railroads handled in the first five months of 1947 would have required more than 30 million carloads of the 1929 magnitude—or almost 1,450,000 loadings per week.

The business community, and railroad men themselves, became so accustomed back in the Twenties to 1,000,000 loadings per week as an index of good business that it is quite likely that many if not most of them are insufficiently impressed with the volume of present traffic, which expresses itself so much more modestly in terms of carloads.

Neglected Ideas Produce No Savings

"I was convinced the idea was impractical—wouldn't work—but I encouraged him to go ahead and give it a try." So commented a chief maintenance officer recently as he extolled a new method of roadbed stabilization proposed by one of his regional men and now being used on a large scale with good results.

Fortunate are those railroads with many officers like this one, for through them is unleashed one of their greatest assets—the constructive thinking capacity of their employees. Unfortunate to a corresponding degree are those roads that may have in positions of authority those with narrow-gage, selfish minds, who, schooled and brilliant though they may be in the techniques of their respective jobs, dampen or stifle the creative thinking of their subordinates.

Progress in any field depends on ideas *in action.* A stillborn idea is a valueless idea. Any practice that discourages, suppresses or, indeed, fails to stimulate a constant flow of new ideas is inimical to progress. Likewise, anything that discourages or prevents the full exploration of ideas for their practicability and usefulness is equally detrimental to advancement. Every supervisory officer on the railroad has an opportunity to foster and develop ideas or to discourage and suppress them—a choice which, because of the large number of officers involved, assumes huge proportions for good or bad.

Recogizing the magnitude of these possibilities, and determined to capitalize on them to the fullest extent, several roads have in effect suggestion systems which act as powerful magnets in drawing constructive ideas from their employees. One such system that has proved highly productive of results—because it removes all mental "roadblocks" or hazards that might be created by fear of individual or departmental displeasure or criticism, assures all ideas careful consideration by joint labor-management committees, and provides cash awards for those suggestions adopted —is that employed on the Illinois Central. By March 1 of the current year, as this system began its ninth year of operation, the number of suggestions made by employees had passed the 204,000 mark. More than 35,000 of these suggestions had been adopted and put to use on the road, and cash payments to the idea creators had reached approximately $417,000. And this system, encouraged constantly by management through motion pictures, chalk-board talks and posters, is today thriving as never before.

On August 11, the Pennsylvania, conscious of the "gold mine" in the creative thinking of its employees —for the railroad, the public and the employees themselves—announced an expanded and improved program to encourage employee suggestions. This plan is an amplification of that road's successful "Bureau of New Ideas," which, to August 11, had channeled more than 17,200 suggestions to the management for consideration.

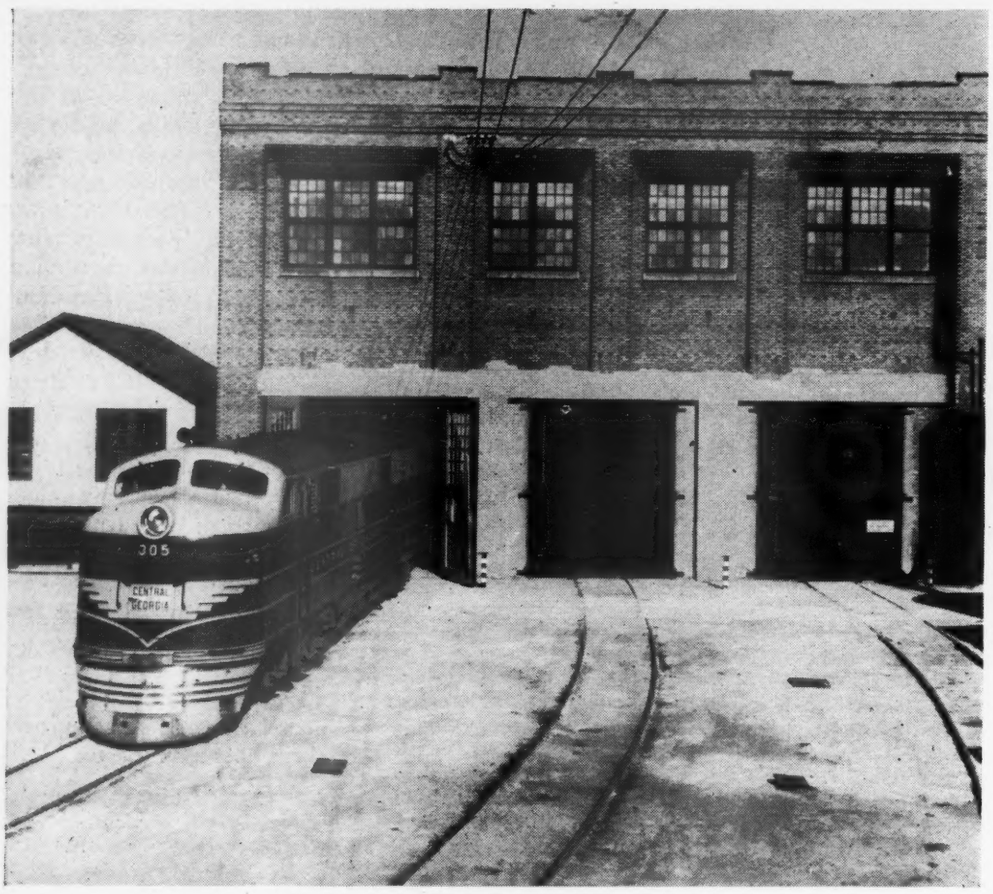
What the Illinois Central, the Pennsylvania, and a few other roads, together with the Pullman Company, are doing successfully in capitalizing on employee suggestions can be done by every other railroad in the country. These roads have taken advantage of the fact that railroad employees, as a whole, are alert and creative, and have demonstrated that, given encouragement, an incentive, and assurance of confidential and fair consideration of their suggestions, they can be made veritable incubators of constructive ideas. At the same time, the success of the plans of these few roads demonstrates with equal clarity that other roads with less-effective employee suggestion plans, or with none at all, are losing golden opportunities for better employee-management-public relations, and for improvements in every phase of their operations.

Shop Engineering

No better time than now can be found, probably, for making the changes and replacements in shop methods and shop tools that are absolutely necessary to keep labor costs for car and locomotive repairs and servicing within reasonable limits. No magic is needed to make the improvements. Good shop engineering that includes a knowledge of the usefulness and capabilities of available equipment and of where and how to utilize it to the best advantage can produce results that exceed even the predictions of optimistic planners.

Most railroads have shop engineers, as such, and shop supervisors who have the background and know-how for laying out the shops and selecting the tools and material-handling equipment that can produce worthwhile savings in production costs. There is no need for "efficiency experts." The men who planned the Baltimore & Ohio's Glenwood wheel shop and Cumberland flue shop, the Erie's Hornell flue shop, the Norfolk & Western's locomotive servicing terminals and the many new light repair yards for cars—these men were the railroads' staff and supervisory men. Backed up by managements that realize that they must be willing to invest in up-to-date facilities, these men have demonstrated that shop engineering pays.

With shop and terminal operations requiring the least skill being paid for at a rate that, in many instances, exceeds the pay scale of the best mechanics before the war, every class of work is a fertile field for the application of shop engineering principles. The man-hours saved can be assigned profitably to other duties during this period of high work volume in the shops and terminals, a condition that should ease the resistance to labor-saving changes.



Westerly end of the shop building at Macon after alterations had been made to adapt it for handling Diesel-electric locomotives

An All-Purpose Shop for Diesel Power

New facilities at Macon, Ga., constructed by the Central of Georgia in an existing building, comprise a complete plant for servicing and repairing road and switching locomotives

THROUGH the purchase of eight 2,000-hp. Diesel-electric passenger locomotives, the Central of Georgia has built up a pool that permits the handling of most of its through Chicago-Florida passenger trains with this type of power. The servicing and shopping of these locomotives, plus the 22 Diesel switchers operated by the road and a number of new Diesel locomotives on order, required more than makeshift facilities and for this reason a new shop was built at Macon, Ga.

Before proceeding with the construction, however, the mechanical and engineering officers of the road, with the assistance of engineers of the locomotive builders (Electro-Motive Division, General Motors Corporation), made a thorough study of the problem of where to build the shop and whether a new building was required, or if an existing facility could be used. Representatives of the mechanical department also visited every new Diesel shop on railways east of the Mississippi river, and adapted the ideas they picked up in the course of this tour of inspection to the building of the new shop.

Location and Size

Macon is a central point on the Central of Georgia, from which its lines radiate in several directions. Another consideration in the selection of this point as the site of the new shop was that the existing steam locomotive shops there, while built in 1910, are of well-preserved steel-frame construction with outside walls of brick. It was decided to use the tank repair shop and part of the boiler shop, which were housed under one roof, for the new facilities. An interesting feature of the work was the manner in which the heavy boiler-shop machinery was transferred to a new location in a space that was smaller by some 40 per cent than that previously occupied, while, at the same time, boiler shop production was not only maintained without interruption but actually was increased.

The Diesel repair shop includes facilities under one roof for both heavy repairs and running maintenance. It is located in what was the northern half of the boiler and tank shop and is immediately adjacent to the present machine, electrical and erecting shops. This location has made it unnecessary to install any great number of machine tools in the Diesel shop itself, as such tools are readily available in the machine shop, only a few hundred feet away from the most distant parts of the Diesel

shop. The area occupied by the new shop is rectangular in shape, being 260 ft. long in an east-west direction by 69 ft. in a north-south direction. Adjacent to but outside the shop at its northwest corner is a cleaning vat for washing the running gear of the locomotives. A lubricating oil pumphouse is located a short distance west of the new facility.

A storehouse for Diesel locomotive repair parts, 42 ft. long and 31 ft. wide, with loading and delivery platforms, was also constructed adjacent to the shop. This building is located 500 ft. from the general storehouse and the parts are trucked on asphalt-paved drives from the latter to the Diesel storehouse. However, when the new Diesel locomotives now on order are received, it is expected that a storekeeper will be located in the Diesel storehouse and the parts will be unloaded directly from cars there without going first into the general storehouse.

The new shop facilities are situated about one-half mile south of the Macon passenger station and, as a part of the construction program, modern and complete fueling facilities were built at the passenger station, avoiding the necessity of running the passenger locomotives to the shop for fueling. No sanding facilities were supplied. In the southern climate in which these locomotives are used, ice on the rails is an extremely rare occurrence. Also, C. of Ga. enginemen have been schooled to ease back on the throttle instead of reaching for the sand valve in operating the locomotives. The result is that so little sand is necessary that the provision of elaborate and expensive sanding facilities was not considered justified, and the locomotives receive what little sand they require when in the Diesel shop for the 3,000-mile inspection.

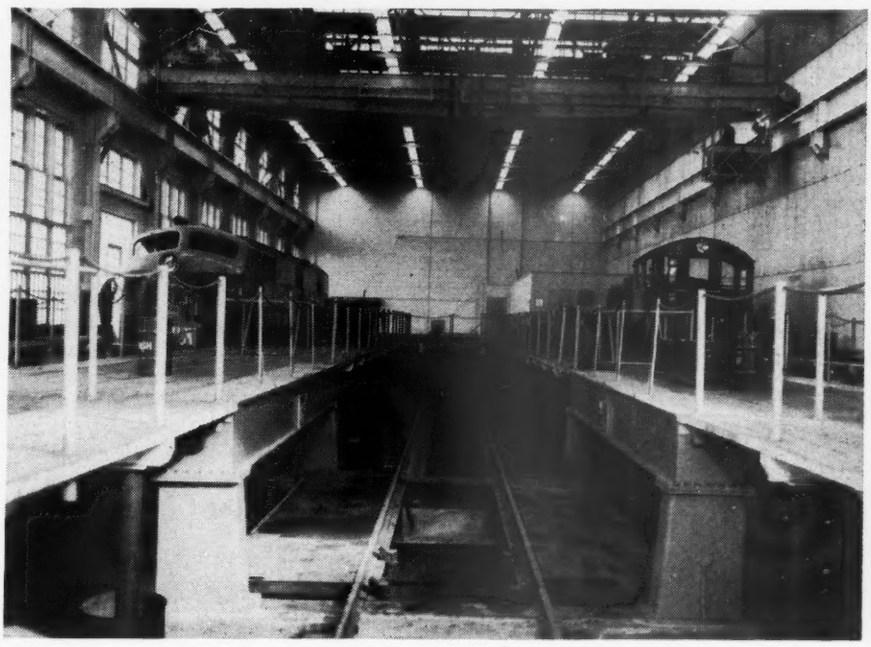
The north, east and west walls of the Diesel shop are part of the original building. A new wall was built to separate the Diesel shop from that portion of the building that now houses the boiler shop. This south wall is constructed of corrugated Transite sheets on an all-welded steel frame and is supported on a brick wall which extends up to the cab-floor level of the Diesel locomotives.

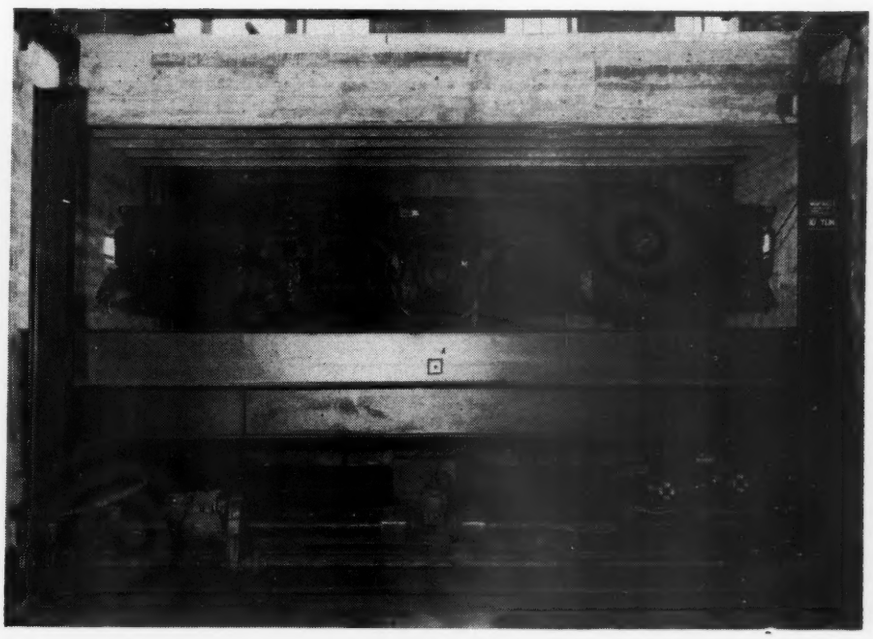
General Arrangement

Inside the new shop there are three stub-end tracks which enter it from the west end. Of these, two are repair tracks and the third, the most northerly one, serves as the truck-release track. For a length of 160 ft. from the west end the building interior is arranged with engine pits, depressed working areas between and alongside the pits, and elevated platforms between the tracks and along the walls, which are at the level of the cab floors. The trackage here is sufficient to accommodate eight Diesel locomotives, including six passenger and two switching engines. The truck-release track and the adjacent repair track extend into the easterly section of the building where the northerly portion of the structure is assigned for truck repair and engine-dismantling and assembly work. The truck-release track not only extends the length of this room but also about 15 ft. into the machine shop which abuts the Diesel shop at this end.

The southerly portion of the building at the east end is occupied, at cab-floor level, by an air-filter cleaning room and a parts cleaning room, and in a corner of the latter there is a tool room and office space. At the depressed floor level in this section of the building are located separate toilet and wash rooms for white and colored employees, and a parts storage room.

In adapting the building to the new function a number of structural changes involving the exterior walls were required. Originally the west wall of the





Above—Looking east along the middle track in the Diesel shop, showing drop-table top and body supports in foreground. Below—Handling a truck on the 90-ton drop table that serves all three tracks in the new shop

building had openings for four wooden swinging doors to admit the four tracks then entering the building. As rebuilt the west wall now has three wooden doors, 14 ft. wide by 16 ft. 5 in. high, to permit entry of the three tracks. Formerly this wall incorporated three brick pilasters, and in providing for the new doors the pilasters were cut off slightly above the tops of these doors and a series of transverse steel beams was installed to support the old pilasters and to act as lintels. These beams are, in turn, supported on two new brick pilasters, placed between the new doors, which were landed on concrete beams that transfer the load to the concrete piers that supported the original pilasters.

Other structural changes involving the exterior walls of the building included the cutting of a new door in the north wall near its west end to give access to the cleaning vat. Also an existing large door opening near the center of the north wall was enclosed with brick up to the elevated platform level, above which it was filled with glass blocks, except for a movable sash installed as an aid to ventilation. Otherwise the building is well daylighted by large glazed areas in the north wall in the west wall above the doors, and in a series of transverse roof monitors. No structural changes were made to the roof, which has a wood deck covered with five-ply built-up tar and gravel roofing. The roof is supported on a series of transverse steel trusses.

The engine pits for the three tracks in the new repair shop are each 150 ft. long. In addition, as already mentioned, the truck-release track and the repair track adjacent to it extend into the engine-dismantling area where the floor, consisting of a 5-in. reinforced concrete slab, is level with the top of rail. In this area a truck-repair pit 32 ft. 6 in. long is provided in the truck-release track.

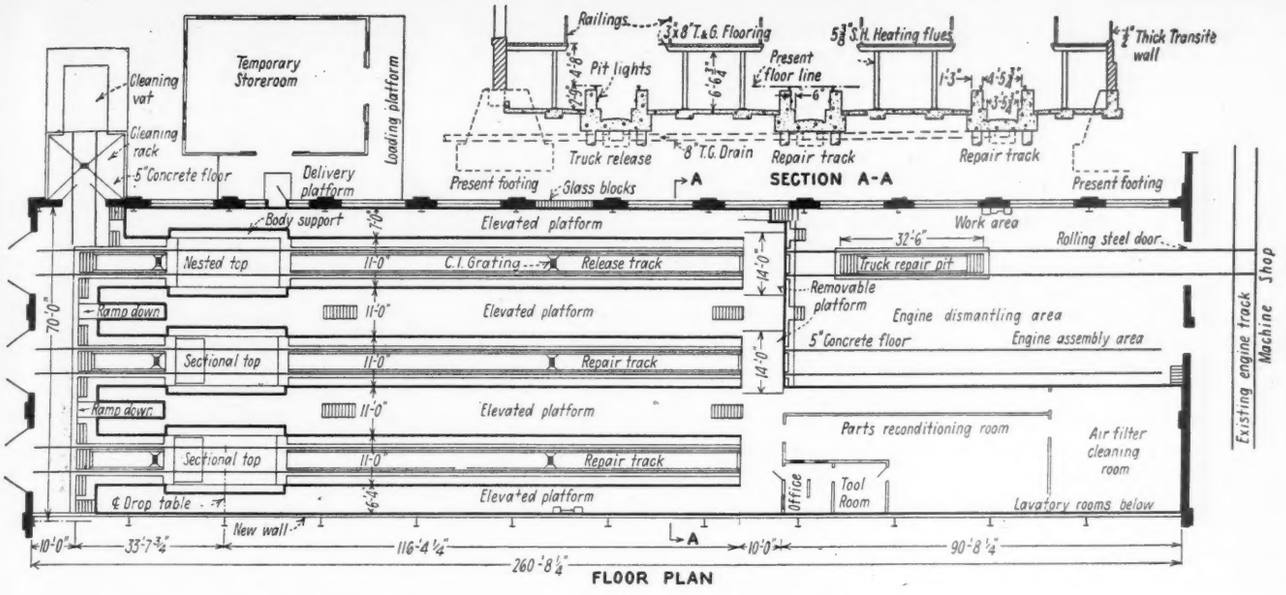
Interior Facilities

All the engine pits are of reinforced concrete supported on a row of creosoted piles under each side wall, the piles being spaced on 3-ft. 6-in. centers. The pits are each 3 ft. 5¾ in. wide at the bottom, but 15 in. above the floor there is a 6-in. ledge on each side, so that the width above this level is 4 ft. 5¾ in. For drainage the floors of the pits are sloped to gutters along the side walls, and waste water is carried in these gutters to two sumps in each pit, which are covered with cast-iron gratings. The pits are 4 ft. deep, measured from the top of rail, which is 2 ft. 9 in. above the depressed floor level. The track rails, consisting of new 90-lb. rail, are supported on the pit walls on 8-in. by 15-in. by ¾-in. steel plates, and are fastened by straps and bolted clips in such a manner that the base of rail is flush with the inside faces of the pit walls. The pits are lighted by built-in reflectors, adequately guarded, and outlets are supplied at frequent intervals for supplying current to power tools, extension lights, etc.

Near the westerly end of the building there is a drop-table pit, serving all three tracks, which incorporates a Whiting 90-ton drop table. To permit the one track to be used for releasing trucks as occasion demands, while allowing it at other times to accommodate locomotives for repair and servicing purposes, three tops are provided for the drop table. One of these is of the nested type, while the other two are sectional tops with auxiliary heads for dropping single pairs of wheels. A set of body supports, for use in connection with the drop table, is provided at each track.

The elevated working areas in the shop are provided in the form of two island platforms, each 11 ft. wide, and platforms along the north and south walls, 7 ft. and 6 ft. 4 in. wide, respectively. These platforms have timber decks of 3-in. by 8-in. dressed tongue-and-groove pine flooring, supported by beams made of 80-lb. scrap rails, which span between posts consisting of second-hand superheater flues 5⅜ in. in diameter. As a safety measure for workmen,

One of the Central of Georgia's passenger Diesels at the fueling plant at Macon station



The Diesel shop, a plan and section of which are shown here, was installed in a portion of the existing boiler and tank shop

the edges of the elevated platforms are protected with chain railings spanning between pipe supports, both the supports and the chains being removable to permit flexibility in providing access to locomotives from the platforms.

Stairs and Ramps

In the design of the shop interior careful attention was given to making it possible for workmen to move readily between the different working levels and between different areas on the same level. At the west end of the shop a concrete-paved walkway, 10 ft. wide, extends the full width of the building at track level. From this level steps lead down into each of the three pits and to the depressed areas on both sides of all the pits. Access to the two island platforms from the track level is gained by a ramp at each platform, while steps lead up to the platforms along the side walls. Other stairways are provided at one intermediate location in each island platform, at the east ends of these platforms and at the east end of the platform along the north wall.

At the easterly end of the inspection pits a transverse walkway connects all of the elevated platforms with each other and also provides a means of access to the facilities on this level in the southeasterly part of the building. Where the transverse walkway extends across the truck-release track and the adjacent repair track, it was necessary to provide movable sections that can be raised into the clear when it is necessary to move a locomotive unit to or from the easterly portion of the shop. Similarly, to permit unobstructed movements of workmen and trucks on the depressed level at this location short sections of the track rails underneath the movable platform sections are supported on hinged beams so they can be folded back into the clear when not in use.

The entire shop is served by a 30-ton traveling crane which formed a part of the original equipment and which was so situated that no changes were necessary to adapt it to the new layout. During the construction work involved in altering the shop advantage was taken of the availability of the crane for use in driving the piles. Leads were suspended from the crane, and the piles were driven by a 3,000-lb. steam hammer which was operated by compressed air from the shop lines.

In making the alterations required in the southeasterly section of the building, the floor for the air filter cleaning room was constructed in the form of a 4-in. concrete slab incorporating beams of 90-lb. scrap rail, which are supported on 6-in. pipe columns. Elsewhere in this area the floor is similar in construction to that of the elevated platforms. The various facilities at the platform level in this section of the building are separated by partial partitions of frame construction, with a roof being provided only over the tool and office rooms. The lower level in this area, containing the toilet rooms for employees and the parts storage room, is floored with concrete and the necessary partitions are of plastered tile. The rooms for employees are completely equipped with circular wash fountains, showers, toilets and lockers.

A color dynamics scheme, recommended by a specialist who made a study on the ground, was used in painting the interior of the new shop. For artificial illumination over the general area, a total of 144, 200-watt, two-tube, industrial-type fluorescent fixtures were installed, which are mounted overhead in four practically continuous rows, giving an illumination value of 10 foot-candles at the platform level. The area under the platforms is also lighted by fluorescent fixtures.

The shop is heated by four Wing revolving heaters mounted above the bottom members of the roof trusses. Steam at 50-lb. pressure is used. Two of these heaters (Wing-size No. 40) have a capacity of 881,000 B.t.u. per hour each, while the other two (Wing-size No. 38) have a capacity of 682,000 B.t.u. per hour each. The office is heated by one deflector-type heater (Wing-size 1½) with a capacity of 17,100 B.t.u. per hour. The washrooms and locker rooms are heated by two size 170 deflector-type heaters with a capacity of 93,000 B.t.u. per hour each. Despite the fact that the past winter was unusually severe in Macon, it was found that the shop could be readily maintained at a temperature of 70 deg. or more, even though outside temperatures as low as 15 deg. above zero were recorded.

Outside Facilities

Fire protection for the shop is supplied by 13 hose reels, each equipped with 50 ft. of 1½-in. hose and nozzle. Of these, six reels are below the platforms and seven above. There are also 26 20-lb. CO_2 fire extinguishers and 17 2½-gal. foam-type extinguishers located at convenient places inside the shop, distributed on both floor levels.

The cleaning vat, located at the northwest corner, just outside the shop building, is 10 ft. wide, 15 ft. 6 in. long and 8 ft. deep. It is equipped with steam coils and is serviced by a two-ton crane and an electric hoist. Also located outside the shop are three lubricating oil storage tanks, two of 15,000 gal. capacity and one of 10,000 gal. capacity, which are used for new oil, reclaimed oil and used oil. Two pumps of 60 g.p.m. capacity are located in the adjacent pumphouse for the new oil and the reclaimed oil, and a pump for handling used oil is located inside the Diesel shop. Pipes for conveying these oils are brought into the shop and carried along the undersides of the elevated platforms, with outlets at convenient locations. A special color scheme, used in painting these pipe lines, is based on distinguishing colors to indicate the type of oil carried in each line.

The Fueling Station

The runs of the Diesel passenger locomotives are so arranged that all fueling necessary can be done at Macon. There are small facilities for fueling at Atlanta, Ga., and Albany, but these are used almost entirely by the Diesel switchers at those locations. When planning the facilities at Macon it was obvious that the most efficient arrangement would be to have the central fueling plant situated at the passenger station, rather than at the Diesel shop, half a mile away. At the fueling station, outlets for fuel and water are arranged to service four tracks and are so spaced as to service two "A" units of the Diesel passenger locomotives at the same time, without the necessity of moving the locomotives.

Two tanks of 25,000 gal. capacity each are located near the station for storing Diesel fuel oil. Two 300-g.p.m. pumps are situated inside an adjacent pumphouse, which is also supplied with other necessary pumping equipment and meters. The pumps are so connected that either can be used for unloading from tank cars into storage or for fueling locomotives. Control buttons for starting and stopping the pumps are located at the fuel outlets, in addition to the usual controls situated inside the pumphouse.

Machine Tools

Although the boiler shop was cut nearly in half to make room for the new Diesel shop, it continued to perform its regular functions while the moving and rearrangement of the machine tools were taking place. As a matter of fact, more engines with Class 3 repairs were outshopped during the construction period than at any time since 1941. This required a great deal of careful planning to the end that the machine tools could be moved systematically without interfering with the repair work and that adequate space would be left in the smaller quarters for material handling and crane manipulation.

The new arrangement in the boiler shop is one rarely achieved in that the building of the Diesel shop permitted the planning of the smaller boiler shop at the outset with a view to obtaining the maximum efficiency from all the tools.

Ordinarily tools for such shops are introduced gradually with the result that it is not practicable to rearrange the existing tools for maximum efficiency as new ones are added.

Beginning this year, the Central of Georgia is starting the gradual conversion of the machine tools at its Macon shops from steam-engine tools to those required for Diesel-engine work. Among the first of such equipment to be placed in the Diesel shop is a generator-testing device consisting of grids and regulating apparatus to present full-load characteristics, which will permit the testing of a Diesel engine and its generator without moving the locomotive. A battery charger and a number of small tools have also been installed this year, while the machine shop has received a number of new lathes, drills, etc., to assist in Diesel work.

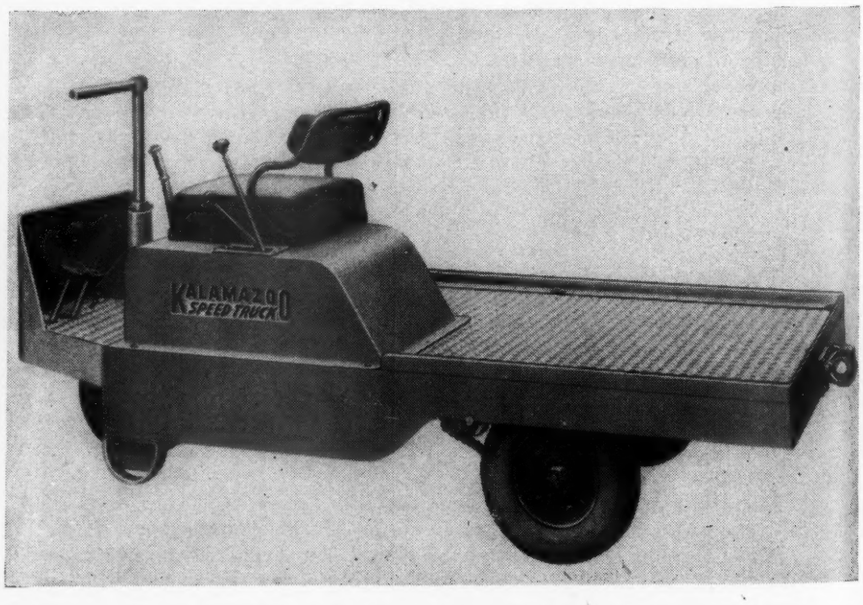
Following inspection trips to many Diesel shops made by H. Hawthorn, mechanical engineer, H. M. McKay, electrical engineer, and E. H. Holloway, general Diesel supervisor, the Diesel shop was designed and constructed under the general supervision of H. F. Sharpley, chief engineer, who consulted closely during the work with J. W. Hawthorne, superintendent of motive power. The structural design work was under the direct supervision of G. A. Belden, engineer of bridges and buildings, and W. S. Ray, architect, who also supplied the field supervision, with the assistance of W. H. Mims, assistant mechanical engineer.

Kalamazoo "Speed Truck"

The Kalamazoo Manufacturing Company of Kalamazoo, Mich., has developed a new rubber-tired "Speed Truck," designed to handle a variety of railway material. There are three models of this new truck, namely, 1200, 2000, and 3000. Model numbers designate, in pounds, the capacity of the truck.

The new truck is powered by a 2-cylinder, 10-hp., air-cooled engine. A selective gear transmission allows two speeds forward and two in reverse. Maximum speed, according to the manufacturer, is 15 m.p.h. It is said that the unit is able to handle trailers with ease, since its rated drawbar pull is 1,000 lb. In addition, the truck is rated highly flexible, the maker claiming it can turn on a radius of 76 in.

The Kalamazoo Speed Truck is constructed of all-steel channel sections. Its overall length is 92 in. and loading space is 20 cu. ft. Net weight is 1,100 lb.



Kalamazoo "Speed Truck," for use in and around shops, stations and storehouses

Study Board Reports Its Achievements

Committee headed by R. V. Fletcher concludes research which President Faricy calls "the most comprehensive survey of railroad problems and activities"

RESULTS of what President William T. Faricy of the Association of American Railroads calls "the most comprehensive survey of railroad problems and activities that has ever been undertaken" are summarized in the final report of the Railroad Committee for the Study of Transportation which functioned during the past five years under the general chairmanship of A. A. R. Vice-President R. V. Fletcher. The report, entitled "Transportation in America," is a printed volume of 391 double-column pages, 8½ in. by 11 in.; it briefs the 160 informatory and recommendatory reports which were prepared by the committee's 15 subcommittees and distributed to A. A. R. member roads.

Mr. Faricy's appraisal of the work was contained in the foreword which he wrote for the summary volume. He noted that the subcommittee reports deal with accounting and statistics, air transport, consolidations, the national economy, engineering and mechanical research, finance, highway transport, labor and personnel, legislation, operating methods and procedures, pipe line transport, public relations, taxation, traffic, and water transport. Ninety-three of the reports deal with particular commodities, "comprehending practically the whole of the freight tonnage of the railroads," as Mr. Faricy put it.

A "Veritable Encyclopedia"

"The reports as a whole," the A. A. R. president also said, "constitute a veritable encyclopedia of information which can be used to advantage by railroad men in their daily work. . . . With the publication of this final volume, the work of the committee comes to a close. It has been, indeed, a worthwhile undertaking. The reports have already been used by many railroads to good effect. As time goes on, their value will be increasingly manifest. . . . Careful examination of this summary volume will disclose many aspects of the study which readers will desire to pursue in greater detail in the reports themselves.

"To the committee, the various subcommittees, the members of their staffs, and especially to Mr. Fletcher, whose untiring and intelligent direction of the committee furnished impetus and inspiration for its work, the railroad industry expresses its deep and lasting appreciation."

The summary volume consists of 22 chapters, including one which sets out the "general principles and conclusions" evolved in the studies. There the committee asserted that the railroads are "fully mindful of their tremendous responsibilities as the chief carrier of the nation's commerce, indispensable to the public welfare in peace and war," but it also warned that improvement in "present inadequate earnings" is the "crux of the problem of continuance of the railroads as efficient public transportation servants, operated by private enterprise."

"The railroads believe," the report continued, "that they are justly entitled to be allowed earnings at the average annual rate, over a period of years, of 6 per cent upon the net value of their

Members of the Railroad Committee for the Study of Transportation

R. V. Fletcher (Chairman).
Dr. B. H. Meyer (Consultant), formerly member of the Interstate Commerce Commission.
E. E. Adams, vice-president, Pullman Company, retired.
V. S. Andrus, assistant to president, Southern Pacific.
F. H. Baird, general passenger traffic manager, New York Central.
J. W. Barriger, III, president, Chicago, Indianapolis & Louisville.
F. D. Beale, president, Virginian.
G. T. Carmichael, vice-president and comptroller, New York, New Haven & Hartford.
Fred Carpi, assistant general traffic manager, Pennsylvania.
H. R. Clarke, chief engineer, Chicago, Burlington & Quincy.
R. E. Connolly, vice-president, Illinois Central.
J. R. Coulter, president, Toledo, Peoria & Western.
George M. Crowson, assistant to president, Illinois Central.
Harry A. DeButts, vice-president, Southern.
H. W. Dorigan, assistant vice-president, New York, New Haven & Hartford.
R. E. Dougherty, vice-president, New York Central.
J. V. B. Duer, assistant to vice-president-operation, Pennsylvania.
R. M. Edgar, assistant to president, Boston & Maine.
J. J. Ekin, vice-president, Baltimore & Ohio, retired.
W. D. Faucette, chairman, Committee of Research and Planning, Seaboard Air line; deceased.
Karl W. Fischer, vice-president, Chicago, Burlington & Quincy.
F. R. Gerard, president, Lehigh Valley; retired.
C. W. Getty, general passenger agent, Pennsylvania.
W. S. Hackworth, president, Nashville, Chattanooga & St. Louis.
W. W. Hale, vice-president, Southern Pacific.
F. S. Hales, assistant to president, New York, Chicago & St. Louis.
George W. Hand, assistant to president, Chicago & North Western.
C. R. Harding, president, Pullman Company.
V. R. Hawthorne, executive vice-chairman, Mechanical Division, Association of American Railroads.
Joseph H. Hays, counsel, Western Association of Railway Executives.
L. O. Head, president, Railway Express, Agency, Inc.
Robert S. Henry, assistant to president, Association of American Railroads.
W. H. Hobbs, director of research, Missouri Pacific.
L. W. Horning, vice-president, personnel, New York Central.
Edwin F. Hunt, assistant general counsel, Nashville, Chattanooga & St. Louis.
G. A. Kelly, executive vice-president, Pullman Company.
W. S. Lacher, secretary, Engineering Division, Association of American Railroads.
H. R. Lake, general manager, Department of Highway Motor Transport, Atchison, Topeka & Santa Fe.
F. R. Layng, vice-president and chief engineer, Bessemer & Lake Erie.
R. J. Littlefield, general tax agent, Pennsylvania.
Daniel P. Loomis, executive director, Association of Western Railways.
Carleton W. Meyer, assistant to president, Chesapeake & Ohio.
A. A. Miller, chief engineer, maintenance of way, Missouri Pacific.
Ben F. Morris, freight traffic manager, Louisville & Nashville.
L. V. Murrow, assistant to the vice-president, Operations and Maintenance Department, Association of American Railroads.
J. P. McDonald, assistant general auditor, Atchison, Topeka & Santa Fe.
Holcombe Parkes, formerly assistant to president, Southern; now vice-president, National Association of Manufacturers.
Julius H. Parmelee, vice-president, Association of American Railroads and director of the Bureau of Railway Economics.
J. B. Parrish, vice-president, Chesapeake & Ohio.
A. E. Perlman, chief engineer, Denver & Rio Grande Western.
J. T. Saunders, vice-president, Southern Pacific; deceased.
J. W. Severs, vice-president and comptroller, Chicago, Milwaukee, St. Paul & Pacific.
C. E. Smith, vice-president, New York, New Haven & Hartford.
Elmer A. Smith, senior general attorney, Illinois Central; deceased.
J. M. Symes, vice-president, operation, Pennsylvania.
John B. Tigrett, formerly executive assistant, Gulf, Mobile & Ohio.
W. G. Vollmer, president, Texas & Pacific.
F. J. Wall, vice-president, New York, New Haven & Hartford.
John G. Walsh, vice-president, Southern Pacific.
L. F. Whittemore, formerly assistant to president, Boston & Maine; now president, Federal Reserve Bank of Boston.

investment in transportation facilities. Such a return is no more than is considered fair and reasonable in other lines of commercial endeavor.

"At the same time, certain handicaps imposed upon the railroads through government action ought to be removed. There should be an end to subsidization of any form of transportation, with fair charges collected for the commercial use of public facilities. Tax policies should apply equitably to all forms of transportation. Regulation of all public carriers ought to be administered according to the same basic policies, by the same agency, and without exemptions. Finally, operators of common-carrier service should be permitted, under proper authority and supervision, to make use of any form of transportation."

Meanwhile, the report had said that the committee's overall concern was with the "outlook for railroad transportation in the United States." It found that "within the predictable future the country will continue to depend upon railroads as the one indispensable mode of transportation," and asserted that "when true costs are given consideration, railroads furnish the cheapest form of transportation." Moreover, they provide through interchange arrangements "an integrated and coordinated system of transportaion which has no parallel elsewhere."

The committee put the net investment in the industry at $23 billion, and noted that it was "supplied by private investors." It pointed out that the railroads employ more than 1⅓ million "well-paid workers"; that their purchases of materials and supplies (other than rolling stock) aggregate $1.5 billion yearly"; that their tax accruals (before carryback adjustments) amounted to $669 million in the peacetime year 1946; and that in the 25 years, 1922-1946, freight and passenger rates "steadily declined, while . . . wages, material costs, and taxes increased."

The War Record

Mention was also made of the $10 billion invested by the railroads after World War I to rehabilitate their properties. It was further recalled that, during the depression of the Thirties, it had been suggested that the roads were "over-built"; but "when the war clouds gathered, it was obvious that if this huge sum of money had not been spent in the Twenties, our war effort would have been hindered almost to the point of frustration." As the committee put it, the railroads, during World War II, "met every demand upon them, both in the freight and passenger fields, with fewer units of equipment than in the first world war, and with promptness and efficiency that brought the acclaim of our civil, military, and business leaders."

This war record, the report went on, "amply justifies the conclusion that a sound, smoothly-functioning railroad plant is indispensable in war, and that services performed by other forms of transportation, while valuable and commendable, are essentially auxiliary." It added that the railroads not only handled "more than 90 per cent" of the war traffic but they also "took care of civilian demands in such fashion as in no way to handicap our ordinary business economy."

At the same time, the committee found that the war "took its heavy toll" out of the railroad plant, leaving the carriers "greatly in need of funds, materials and labor" for a program of rehabilitation. However, the railroads "face the future, recognizing this need and determined to meet the situation by the use of every resource in their power."

As to the industry's general economic prospects, the committee pointed out that they must depend first of all upon the general economic stuation of the country. It went on to refer to findings of its Subcommittee on Economic Study, which indicated the railroads "should for the next three or four years enjoy a volume of traffic which will be on a relatively high level as compared with prewar years"—assuming "the adoption and maintenance of sound economic programs on the part of our responsible legislators and executives."

When it looked beyond 1950, the committee found itself undertaking to sail "uncharted seas," but it did hazard this prediction: "If we wisely maintain our national budget in balance, relieve to some extent the burden of taxation, and handle the public debt in such manner as to insure the integrity of government obligations, we see no reason why the decade of the Fifties should not reflect an expanding economic frontier, consonant with the position of the United States as the leader of the world's commercial actvities."

The committee recognized that, as between war and peace conditions, there will be "many changes in types of traffic handled by particular railroads," and that these changes "pose serious problems." On this score the railroads were found to have exhibited in the past "a capacity for meeting such situations by a display of initiative and resourcefulness that has built up a well-deserved reputation for flexibility." When it considered all factors, the committee concluded that "there is no reason to believe that the near future will witness a fall-off in railroad traffic that will plunge the industry back into the depression years—always assuming the ability to control expenses in reasonable fashion, and assuming further that wisdom will preside in our political councils."

On the matter of competition, the committee stated that, in any "intelligent consideration" of the railroad situation, attention must be directed to that "very important feature." Thus the committee's "careful examinaion," through subcommittees, of "the history and characteristics of highway, waterway, air, and pipe-line transportation." It was conceded that all these modes of transportation "have their place in a well-ordered system," that each has its "peculiar advantages" and is adapted to perform "a particular service with benefits to the national economy." At the same time it was found "clear that whenever any one type of carrier undertakes to expand beyond its proper field, in defiance of economic law, it becomes but an unprofiitable servant of industry." Hence the subcommittees' efforts "to define the economic boundaries of each form—an end admittedly difficult to attain and accompanied, necessarily, by many factors of uncertainty."

Emphasis on Service

The summary went on to say that these studies nevertheless "indicate rather clearly that our transportation situation would be appreciably improved if instead of having railroad, airline, motor-carrier, and water-carrier companies, we had, instead, transportation companies, authorized and able to furnish to any shipper that particular class or type of service which the exigencies of his business demand." It was stated further that such a set-up "would not prevent the continued operation of independently owned railroads, trucks, buses, airplanes, and vessels"; but "the functioning of these general transportation companies, under public regulation, would provide a pattern for economic operation that would tend to restrict each form to the field in which experience has shown that it really belongs."

The committee's consideration of the outlook for passenger traffic led to a general finding that the railroads "will continue to handle a very considerable amount of passenger traffic in the United States, both for long and short distances." It was also pointed out that the railroads have entered upon "a broad, definite program for improving passenger equipment and service in the interest of comfort and safety." Recent developments in the sleeping- and parlor-car fields were called "tantamount to a revolution," the committee noting that the Pullman Company has become "the joint property of the American

railroads," and that "many of the so-called lightweight cars of modern construction have been purchased by individual railroads, and will be operated by those railroads or perhaps under lease to the railroad-owned Pullman Company."

"Particular attention," the report went on, "is being given to the comfort and welfare of coach passengers. The passenger train of the future will be conspicuous for speed, comfort, and safety, and the transportation offered the public will be at reasonable prices. There will be a decided improvement in the service enjoyed by passengers. From a practical viewpoint, whether the trip is for business or for pleasure, it will be found, we believe, that railroad travel compares favorably in cost, comfort, and convenience with travel by other modes of transportation."

Must Meet Shipper Needs

With respect to freight traffic, the committee found no indications that the railroads would lose further ground in the competitive struggle. "Generally speaking," it said, "the railroads can expect to move about two-thirds of all the freight traffic of the country, measured in ton-miles, and taking into consideration the large amount of traffic which moves over the Great Lakes in the season of open navigation." In making this prediction, the committee expressed its confidence that every effort would be made "to meet the demands of shippers with respect to packing requirements, promptness of movement, reasonableness of rates, and safe handling of the commodity."

The summary next reviewed railroad research activties, in which connection it discussed briefly the work in engineering, mechanical, and accounting fields which is being done by A. A. R. divisions. Also mentioned was the "constant attention" being given by railroad officers and committees to "phases of railroad operation that may be classified as economic." Later on the committee advised that there should be continued in the future "well-planned programs of research," which would be in addition to "the constant research which goes on every day, through experiments and tests of materials and methods in the course of the day's work." It added that railroad research programs should be coordinated with "the vast amount of technical and other research constantly conducted by manufacturers from whom the railroads purchase equipment and supplies, and by laboratories and educational institutions all over the country."

The report of the Subcommittee on Consolidations was described as the "most complete discussion of the subject that is available." It showed that "throughout the history of the railroad industry, there has been a decided tendency to effect consolidations, and this process has gone on throughout the years and under varying statutory provisions." Figures from the subcommittee's report were made the basis for the committee's general assertion that "the interest of the railroads in the problems of consolidation is neither new nor academic." It added that "the question of whether such consolidations will bring about economies and thereby subserve the public interest is under constant study."

As the committee next noted, the Transportation Act of 1940 repealed the Interstate Commerce Act's former provisions calling for a "peremptory" consolidation plan. "It is the deliberate judgment of the committee," the summary continued, "that for the present at least there is no occasion to make major amendments in the law, and that the wise policy is to leave the matter in the hands of the carriers, to effect needed consolidations as conditions arise making these consolidations obviously in the public interest. In other words, the railroad industry is committed to a policy of voluntary rather than compulsory consolidations."

The summary comment on "employer and employee" appraises the relationship between management and employees as being a matter of "the first importance." That the industry recognized this was evident to the committee when it noted that a "growing number" of roads have established personnel departments, "headed by officers with special qualifications and appropriate rank and authority to attend to matters bearing upon employee relationships." At the same time, however, it was also reported that "much has been said to the effect that young persons of promise are not inclined to enter the railroad business but seek employment elsewhere, upon the theory that the railroads do not afford opportunity for growth and the exercise of individual initiative."

"The railroad business," the committee advised in that connection, "needs to be made attractive to young persons possessing those qualities that make for leadership and progress, because no business more directly and vitally affects the public interest. To this end, care in the selection of employees is of great importance. The railroads should and will devote even more attention than in the past to recruiting employees manifesting capacity for growth and initiative, and to their subsequent training for proficiency and advancement throughout their entire working career."

Also stressed in this section of the summary was the importance of keeping employees informed "as to essential facts having to do with the work of the railroads"; the value of suggestion systems; the desirability of encouraging group-insurance plans, credit unions, etc.; and the favorable employee relations which flow from such things as athletic, cultural and amusement facilites, and "hospitable places in which employees on duty away from home may be housed and fed." In closing this discussion, the committee said that "no well-organized railroad can afford to overlook any method tending toward improved relations between men and management." It added that this is a field in which "unquestionably there is always room for employment."

More Efficiency Ahead

In brief comment on its findings with respect to operating methods, the committee mentioned the "great progress" which has been made in the way of giving the public better and more efficient service. "By no means, however," it added, "has the ultimate been reached in the matter of operating economies. Constant research will lead to improvements in operating methods which will be reflected in increased efficiency and lower unit costs."

Next came comment on the railroad financial situation where the committee argued again the case of the railroads for a fair return. It pointed out that a return of as much as 6 per cent was earned in only one year (1942) of the 1921-1946 period. The 1946 return was put at 2.76 per cent.

"This conditon obviously must be corrected if we are to have a fairly constant supply of private capital necessary to take care of the business of the country," the committee continued. "From the viewpoint of the public interest, no sound reason can be suggested why railroad stocks should not be as desirable from the investors' viewpoint as industrial stocks. In actual experience, however, the average railroad stock sells at a much lower price on the market than the average industrial stock. This does not indicate a wholesome condition. It is one which must be corrected if the railroads are to continue, as private enterprises, to serve the public as they should."

From its studies of debt reductions, the committee concluded that "it cannot fairly be said in criticism of the railroads that they have been improvident in managing their financial affairs." It went on to say that, for every dollar paid out in dividends during the 25-year period, 1921-1945, the railroads "invested two dollars in improvement of their properties." Further evidence of "good financial management" was found in the "substantial reduction in railroad funded

(Continued on page 81)

Mechanization of Freight Station Simplifies L. C. L. Handling

Extensive use of battery-powered electric trucks and cranes enables P.&L.E. to cope with increased traffic and meet heavy loading requirements at Pittsburgh, Pa.

UTILIZATION of modern methods and material-handling equipment to solve one of the most difficult problems faced by railroads in the movement of freight—the handling of unprecedented less-than-carload traffic at stations and transfer sheds of limited capacity—has been of great assistance in enabling the Pittsburgh & Lake Erie to maintain almost continuously at its East Carson Street freighthouse in Pittsburgh, Pa., a high average load per l.c.l. car. In July, 1947, for instance, outbound cars at the freight station were loaded with an average of 28,271 lb. each—far in excess of the minimum of 20,000 lb. per car set up by the Office of Defense Transportation.

Early User of Electrics

In its six-track Pittsburgh freighthouse, the P. & L. E. handles between 40 and 50 incoming cars and the same number of outgoing cars daily with 20 gangs, or an average of about 2,500 cars a month.

To do this job, the station utilizes a fleet of 37 storage battery-powered platform trucks,—each of 4,000-lb. capacity —a 10,000-lb. capacity battery-powered crane, three 4,400-lb. capacity cranes and a 4,000-lb. capacity fork-lift truck. Augmenting this array of electric-powered industrial trucks are six tractors, more than 500 automatic-coupling

By permitting high tiering of newsprint rolls, this battery-powered high-lift platform truck increases storage capacity by one third

Much time and labor are saved by this fork-lift truck which enters the freight cars, positions and deposits its load

live-skid trailers, and some 60 two-wheeled hand trucks.

The P. & L. E. began the use of battery-powered trucks in the handling of merchandise freight in 1916, when six low-platform trucks, each of 4,000-lb. capacity, were placed in operation, replacing a number of hand trucks. A substantial increase in the volume of merchandise handled in a given period of time, together with a quicker turnaround of both merchandise and cars, was apparent almost at once. From time to time additional electric-powered trucks were acquired, and complementary numbers of hand trucks were retired. The men formerly assigned to hand-trucking operations who were released thereby were given other duties in the freighthouse.

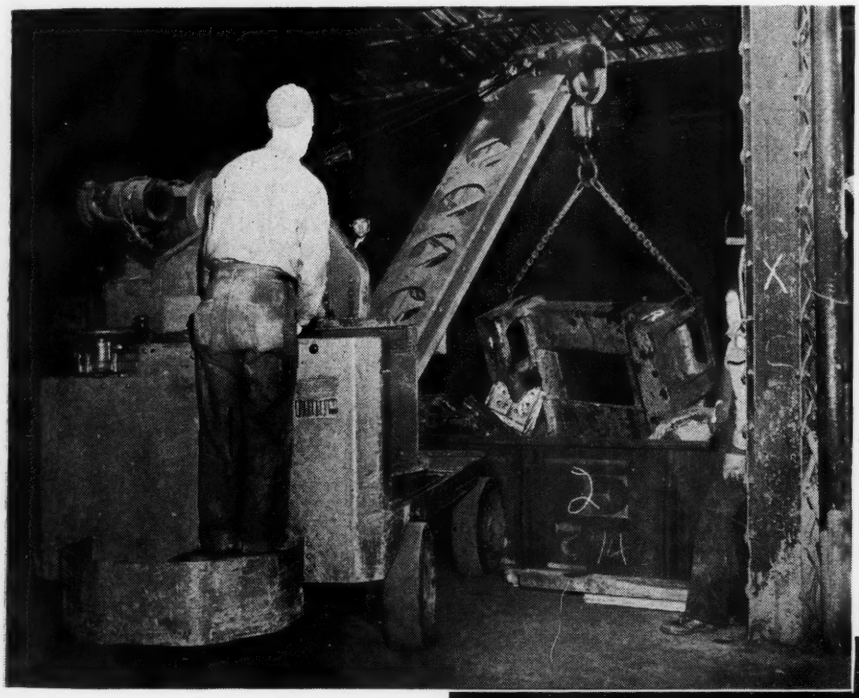
Because Pittsburgh is located in the heart of one of the largest areas of heavy industry in the United States, and is the focal point for both in and outbound shipments of varied types of merchandise, the classes of goods handled at the P. & L. E. freighthouse are never static. Predominant items include steel in the form of sheets, plates, coils, castings and fittings; oils and paints in barrels or drums; machined parts; steel mill rolls; car wheels; radiators; pipe; crated stoves; steel cabinets; barrels of chain; grey and malleable iron, and quantity shipments of paper on skids and rolls of newsprint.

Up to some four years ago, the latter merchandise was handled in the main warehouse of the freight station on hand trucks, being storaged by means of elevators. To improve on this handling, a separate warehouse—with a capacity of 150 carloads of paper—was constructed adjacent to the regular freight terminal. A battery-powered, high-lift platform truck, with a 72-in. lift, is used in this warehouse for tiering the rolls of newsprint, augmented by two electric-powered tiering machines for handling flat stock, 12 two-wheeled paper trucks, and 194 four-wheeled paper trucks. A second high-lift truck of similar design is currently on order. The high-litt platform truck paid for itself in savings on costs for handling labor alone within a three-month period, and, at the same time, increased the storage capacity of the warehouse annex by one-third because of its ability to tier a roll of paper in a horizontal position across two rolls stored vertically.

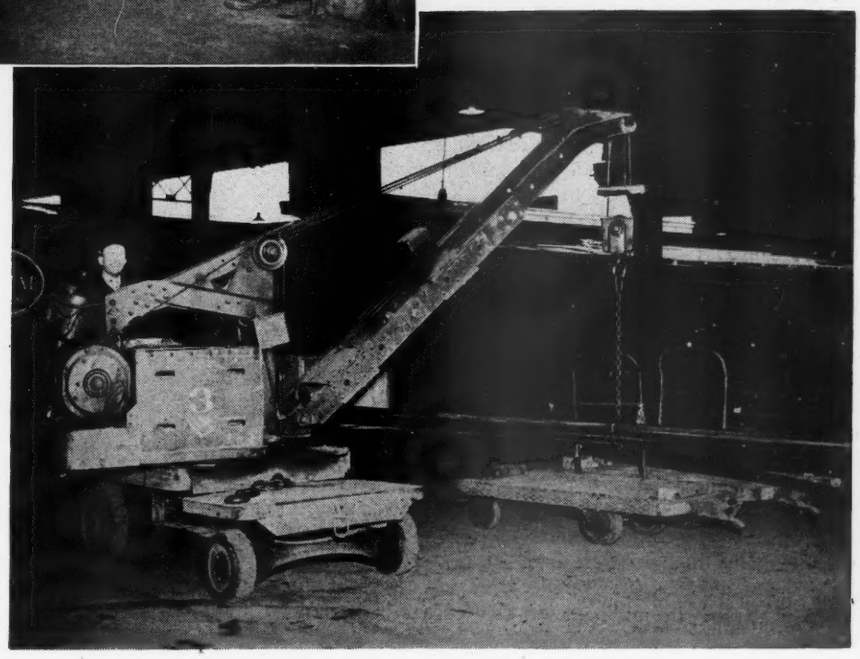
Handling Heavy Loads

With respect to general shipments, modern equipment has taken over the involved task of unstowing, transporting, re-assorting and re-stowing the heterogeneous l.c.l. freight in the cars of all types that fill the six tracks in the freight station so as to require a minimum of traffic interference and manual rehandling. The islands of the station are joined between cars at two points by means of electric-lift bridges spanning the six tracks. The provision of these ways cuts to a minimum the length of travel of the material-handling trucks on each trip, and permits easy access to all parts of the station along clearly defined aisles.

The longest uninterrupted haul—confined principally to tractor movement of trains of live-skids—is about 1,000 ft.



One-man operation of this 5-ton capacity electric crane accomplishes in a matter of minutes work that formerly took many hours



One of the three 4,400-lb. capacity storage batttery-powered crane trucks deposits a load of steel rods on trailer truck

More than 100 packages of miscellaneous freight, weighing more than a ton, moved by one man in one operation by a storage battery-powered industrial truck in the Pittsburgh & Lake Erie's Pittsburgh (Pa.) freight station

The usual haul for the other type trucks is approximately 300 ft. In most instances the handling and dispatching of trucks are so coordinated that trucks frequently drop off merchandise en route on a call to a work area to utilize empty carriage capacity.

Steel billets, heavy castings and merchandise that can be handled with slings, with or without spreader bars, are unloaded from, or loaded on flat cars and gondolas. The 10,000-lb. capacity crane is used mostly for such heavy work. A sheet steel lifter attachment is provided for lifting sheet steel in bundles or on skids. The 4,400-lb. capacity cranes are used on smaller merchandise, or for the loading and unloading of motor trucks which park alongside rolling doors opening from the sides of the house. Formerly the smaller cranes were of 4,000-lb. capacity, but were reconstructed to handle greater loads when it became apparent that additional capacity was needed. When movement is heavy, trucks generally take an overload of approximately 500 lb.

The low, fixed-platform trucks are loaded manually, the load weights varying according to the type of merchandise being handled. Bulky packages, comparatively light in weight, are moved from point to point by these trucks which enter the box cars to pick up or unload.

In many instances, strings of live-skids are placed adjacent to car doors, being moved in and out of the cars manually. Fork-lift trucks likewise move in and out of cars, picking up or depositing or positioning merchandise that is being shipped on skids or pallets. The ability of the trucks to enter and move inside cars has added to the speed with which cars are stowed or unstowed. Likewise the ability of the fork truck to lift and tier skidded or palletized merchandise has aided the East Carson Street freight station to maintain a pacemaking position with respect to the weight of average car loadings.

When the first fork-lift truck was acquired, a performance study for its first month in service showed that, despite the fact that operators were not entirely familiar with procedure, a total of 416,381 lb. of assorted merchandise was handled by the truck, or an average of 13,456 lb. each 8-hour day for a period of 30 days.

Cost of Electrics

A few of the original electric trucks placed in operation by the P. & L. E. 31 years ago still see service in the East Carson Street freight station. Additional trucks were obtained during manpower shortages when, with the lessening available labor supply, there was a heavy increase in the amount of goods shipped, coupled with demands for faster movement in transfer and outward shipment. These trucks have now been so fitted into the pattern of operational procedure that they are kept busy at all times.

Because battery-powered trucks have been introduced gradually over a period of so many years, actual cost comparisons with manual handling are not available, although they appear to have been materially lessened. The fact that these power trucks are "delivering the goods," and that they are cheap to operate and low in cost of maintenance, is evidenced by the fact that the road has found it desirable to expand their use steadily over a long period of time.

Since the Pittsburgh & Lake Erie generates its own electric current and the cost thereof is not segregated by use, there is no basis on which to estimate the cost of energy supplied the trucks through their storage batteries. A 24-station charging panel is located in one corner of the freight station where the trucks are brought each night and lined up, the batteries being charged without removal from the trucks. Generators and an automatic charging device are located on a balcony built above the charging depot. The charging is supervised by a night crew, the trucks being moved into charging position in relays. For the 43 trucks in use in the main freight station and warehouse annex, a total of 46 batteries is used, several being kept in reserve at all times. Trucks are withdrawn from service at intervals of once a month for greasing, inspection and general checking. A special crew is assigned to the task of servicing the handling equipment, and, because of preventative maintenance, there has been little unscheduled loss of service.

Roads Ask Quick Freight-Rate Increase

File motion for immediate 10 per cent boost as I. C. C. begins hearings on amended Ex Parte 166 petition asking permanent advances averaging 27 per cent overall

The railroads' hopes to make their proposed emergency interim freight rate increase of 10 per cent effective next week failed at the September 11 hearing of the Ex Parte 166 hearing when Chairman Aitchison of the Interstate Commerce Commission announced that the commission would hear evidence from protestants before ruling on the railroad motion. At the same time the chairman indicated that the interim proposal would be given expedited consideration. He suggested that the parties for the time being confine their presentations in so far as possible to that phase of the case; that the railroad presentations be completed at the September 13 session of the hearing; and that opposition presentations be completed by the close of the September 17 session. He stated further that if this schedule were met the entire commission would be on hand for the September 18 session to hear oral argument on the motion.

IMMEDIATE relief in the form of a temporary freight-rate increase of "not less than 10 per cent" was asked by the railroads in a motion submitted to the Interstate Commerce Commission at September 9's opening session of hearings at Washington, D. C., on the carriers' amended Ex Parte 166 petition for authority to make permanent increases averaging 27 per cent for the country as a whole. The granting of any such temporary relief without hearing was opposed by counsel for the National Industrial Traffic League, the National Association of Railroad and Utilities Commissioners, and numerous other representatives of intervening parties.

The large crowd on hand for the opening session could not be accommodated in any of the commission's hearing rooms, so the proceedings were shifted to the auditorium in the nearby Department of Labor building. The hearings are being held before the commission's Division 2, to which the case has been assigned for administrative handling, but Commission Chairman Aitchison, who is presiding, announced that the decision would be made by the entire commission. Members of Division 2, in addition to Chairman Aitchison, are Commissioners Mahaffie, Splawn and Alldredge, while the cooperating committee of state commissioners, which is sitting with the division, consists of N. J. Holmberg of Minnesota, N. B. Knight, Jr., of Louisiana, H. L. Mason of Ohio and Kenneth Potter of California. The railroad presentation is under the direction of Jacob Aronson, vice-president and general counsel of the New York Central.

The Supplemental Petition

The supplemental petition, which brought the overall average of the proposed permanent increases up from 17 to 27 per cent, was filed with the commission on September 5. It followed upon last week's decision of the arbitration board which awarded non-operating railroad employees a wage increase of 15½ cents per hour, effective September 1. With various exceptions where maximum increases per 100 lb. or per ton would be specified, the permanent increases now sought would be 38 per cent within Eastern territory and interterritorially between that territory and other territories and 28 per cent within and between Southern and Western territories.

The estimated annual yield on the basis of 1947 traffic would be $1,873,000,000, as compared with the $1,170,000,000 which would have been realized from the increases proposed in the original petition of July 3. That had sought increases of only 25 per cent within Eastern territory and interterritorially between that territory and other territories and of 15 per cent within and between Southern and Western territories. Its exceptions as to the commodities were like those of the current proposal, but the latter seeks greater maximum increases on the excepted commodities.

Among these commodities is bituminous coal on which the increase now proposed would be 25 cents per net ton or 28 cents per gross ton, except that increases of 35 cents and 39 cents, respectively, would apply on tidewater coal for transshipment as cargo or bunker coal to foreign countries (except Canada and Mexico) and to the Panama Canal Zone, Cuba and insular possessions of the United States. The increase on anthracite coal would be 15 cents per net ton or 17 cents per gross ton where present rates are 75 cents or less per net ton and 84 cents or less per gross ton; 30 cents per net ton or 34 cents per gross ton where present rates are from 76 cents per net ton or 85 cents per gross ton to and including $1.50 per net ton and $1.68 per gross ton; and 45 cents per net ton or 50 cents per gross ton where present rates are over $1.50 per net ton or $1.68 per gross ton.

The increase on iron ore would be 25 cents per ton, net or gross as rated, applied to all rates. The increases on coke would be the same as those on anthracite coal, while lignite coal and lignite coal briquettes would take 25 cents per net ton.

Other exceptions where the general percentage increases would be limited by specified maxima include: Cotton in bales, maximum 10 cents per 100 lb.; fresh fruits and fresh or green vegetables, maximum 20 cents per 100 lb.; sand (foundry, glass, molding, etc.), maximum 60 cents per net ton but not less than 30 cents per net ton; sand and gravel, NOIBN, maximum 30 cents per net ton; asphalt, petroleum and petroleum products, and pitch and tar, in tank cars, maximum 9 cents per 100 lb.; salt, maximum 3 cents per 100 lb.; logs, pulpwood and fuel wood, maximum 12 cents per 100 lb.; building woodwork and millwork, lumber and articles taking the same rates, wooden posts, poles and piling, ties and woodpulp, maximum 18 cents per 100 lb.; iron and steel articles, maximum 10 cents per 100 lb. but not in excess of $2 per ton, net or gross as rated; cement, lime and plaster, maximum 9 cents per 100 lb.; sugar, maximum 18 cents per 100 lb.

The general 38 and 28 per cent increases would be applied to milk and cream in passenger or freight services, while a 38 per cent increase in all territories would be applied to charges for protective service, c.o.d. services, diversion or reconsignment, and stopping in transit to complete loading or partly unload. Increases in switching charges would vary from 15 to 38 per cent, while the handling charges on iron ore at

lower lake ports would go up 15 per cent. The minimum rate on shipments eligible for pick-up and delivery services would be increased to 75 cents per 100 lb., but there would be no increase in amounts paid or allowances made by carriers for drayage or other services performed by shippers.

Charges for loading or unloading as provided in section a of Classification Rule 15 would be increased to 8 cents per 100 lb., but there would be no increase in charges for loading or unloading livestock, nor in wharfage, handling and tippling charges applicable at South Atlantic and Gulf of Mexico ports. All-commodity rates would take the general percentage increases as would freight in truck bodies or trailers on flat cars. No increase in demurrage charges is proposed.

Costs Up $625 Million More

The supplemental petition put the increased costs which have developed since the filing of the original petition at about $625,000,000 on an annual basis. That estimate allowed $467,400,000 for the arbitration board's wage award to the non-ops, including payroll taxes and similar increases which experience has indicated must also be given to related classes of employees. The remaining $157,600,000 represents increased costs, also on an annual basis, of fuel and other materials and supplies which have occurred since June. In the latter connection the supplemental petition recalled that the carriers' original proposal was based on wages and prices in effect on July 3; and that the original petition had stated that, if there were subsequent increases in costs, "it will be necessary to bring the changed situation to the attention of the commission."

Along with the supplemental petition, the commission also received on September 5 notice of the plan to seek the temporary interim increase of 10 per cent which would be in effect until the commission disposed of the petition's permanent proposals. The notice took the form of a letter from Mr. Aronson to Chairman Aitchison. The only exceptions to this general advance would apply to rates on coal and coke where the emergency increase would be 10 cents per net ton or 11 cents per gross ton, and on iron ore where the increase would be 10 cents per ton, net or gross as rated.

As noted above, the motion for this summary relief came at the hearing's initial session where it was made by Mr. Aronson as soon as Chairman Aitchison had completed his opening remarks. The motion suggested that the proposed interim increases be made effective by applying them to freight bills computed on the basis of existing rates. It also asked that the commission grant special permission to file "simple forms of supplements to existing tariffs" on one-day's notice; that it authorize the supplements to become effective without suspension; and that it make any needed modifications of its outstanding orders and grant any fourth-section relief required.

Matter of "Life or Death"

Arguing in support of the motion, Mr. Aronson said that the proposed immediate relief was a "matter of life or death" to the railroads. He urged that the temporary increases be approved for application as soon as possible, adding that the carriers think that should be "within three, four or five days." Pointing up what he called the "disturbing and serious impact" of rising costs, the N.Y.C. vice-president said that, if 1939 unit costs prevailed this month, railroad expenses would be "some $3 billion" less on an annual basis than they now are. He asserted that it was "impossible" for gross revenues on the present rate basis to absorb the increased costs, even though traffic volume is at a peacetime peak.

The supplemental petition's figures showing that costs on an annual basis have increased over $600 million since June were used by Mr. Aronson to support his assertion that "a most serious disservice would be wrought on the railroads and the national economy if no interim relief were granted." He added that one of the great railroad difficulties has been the lag between increases in their costs and the arrival of relief in the form of higher rates.

At this point Chairman Aitchison broke in to suggest that the carriers should have no objection if the commission took for its consideration of the motion a "portion" of the time taken to frame the proposal. Mr. Aronson replied that it shouldn't take much time to pass on the interim proposal which the carriers had framed with a view to eliminating opposition; it seemed to them that they were suggesting something on which the commission and other parties "would find it consistent to cooperate, knowing that the railroads need the relief."

Replying to questions from Commissioner Mahaffie, Mr. Aronson said again that the interim increase would produce something over $600 million a year. He added that the proposal represents the "minimum," the "extreme minimum" which the railroads need, there being "no other way" to recover present costs unless they be passed on to "next year's shippers."

Chairman Aitchison again took up the questioning to ask if the motion were based on matters of which the commission had knowledge, or if the carriers proposed to support it with testimony. Mr. Aronson replied that the motion was bottomed on matters of "common knowledge," but he offered to call a witness to testify on the cost of the non-op wage award, which would take "about five minutes." Chairman Aitchison agreed that the commission may take notice of such things as the wage award and increased coal prices, but their effect on railroad expenses and rates, he added, is a "different matter."

Says Figures Don't Tally

The chairman went on to say that he had brought up the matter of supporting evidence for the motion because the railroad figures "don't tally with ours." Whereupon Mr. Aronson asked "Are we too low?" And the chairman replied that "we haven't quite got to the stage of commissioners testifying yet." There the colloquy ended, and the commission proceeded to hear counsel opposing the motion.

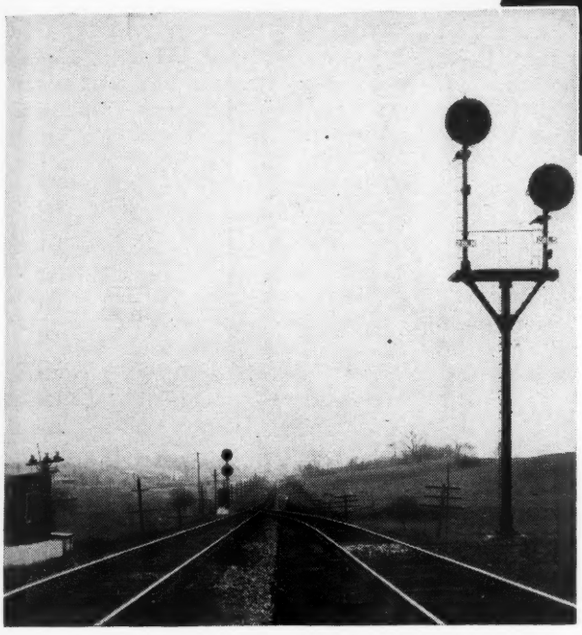
First of these was John S. Burchmore, representing the N.I.T. League, who expressed "some sympathy" for what Mr. Aronson had to say about the need for keeping the railroad industry from "collapse." However, as Mr. Burchmore read it, the original petition indicated that the railroads were seeking a higher rate of return rather than relief which would avoid deficits. Thus he suggested that the commission, before granting interim relief, should determine whether there really is an "emergency" or whether revenues under present rates will be sufficient to "sustain" the railroads until the permanent proposal is tried out.

If relief is now granted without hearing, Mr. Burchmore suspects that the railroads will "rush in again" for further interim relief if their operating employees obtain a wage increase. In closing, the N.I.T. League counsel suggested that the commission divide the case into two parts, holding a "snappy" hearing (of about two weeks) on the interim proposal and then giving the shippers a "decent interval" within which to prepare their presentations with respect to the permanent proposals. The latter, as Mr. Burchmore appraises them, comprise the 'greatest rate case" that has been before the commission.

Challenges "Emergency" Talk

F. G. Hamley, general solicitor of the National Association of Railroad and Utilities Commissioners, was the next opposition speaker. He asked that the interim-increase proposal be set for "limited" hearings at which he promised to show that the "emergency of which

(*Continued on page 85*)



Right—The control machine for the territory between Bristol and Radford is in the dispatcher's office at Roanoke. Below—The main-track signal and the siding signal are on a high bracket mast

N. & W. Installs C. T. C. on 107 Miles

Saves train time and increases capacity of busy single-track line handling 10 passenger trains and 14 freights daily

AS a means of facilitating train movements and securing maximum operating capacity of an existing single-track line, the Norfolk & Western has installed centralized traffic control on 1.2 mi. of double track and 106.7 mi. of single track between Radford, Va., and Bristol. On this territory, known locally as the Bristol line, train movements were formerly authorized by timetable and train orders, automatic signaling being provided as protection, and the siding switches were operated by hand-throw stands. With the C.T.C., the siding switches are operated by power machines, and signals at the sidings, under the control of the dispatcher, display aspects to authorize train movements.

This line between Radford and Bristol is a portion of a very old railroad known as the Virginia & Tennessee, built between 1854 and 1856. From Radford it extends in a southwest direction through valleys between the Appalachian and the Cumberland mountain ranges. Although there are no long, steep grades, there are numerous short rolling grades, as well as some ranging up to 1.4 per cent extending for as much as three miles. The curves are numerous, with many ranging up to 4 and 5 deg. and several up to 7 deg. Even so, the engineers who located the original line did commendable work, and present-day reconstruction to reduce grades and curvature through this territory would involve expenditures beyond what could be justified economically. Therefore, as the traffic gradually increased, the policy has been to leave the line and grade practically as constructed, but to apply modern improvements to facilitate train movements and increase the track capacity.

The track is constructed and maintained to withstand heavy traffic at maximum train speeds permitted by the curvature. All trains are operated by steam locomotives, which are designed not only to take the curves at safe speeds but also to take the trains around the curves and up and down the grades at a uniformly constant speed.

Heavy Traffic Moved

The territory is thickly populated, requiring local passenger-train service as well as local freight service. A map of the Norfolk & Western shows the importance of this Bristol line and other portions of the N. & W. as part of a through route, in cooperation with the Southern and other railroads, between eastern cities and Knoxville, Tenn.,

Chattanooga, Memphis, Birmingham, Ala., and New Orleans, La. A local passenger train, a mail and express train and three through passenger trains are operated each way daily. A local freight is operated each way daily, except Sunday and several time freights are operated as required. On the average, there are 10 passenger trains and about 14 freight trains daily over this territory, plus some intermediate shifting and shuttle service. Except for the locals, all the trains are operated in connection with other railroads in through schedule service, and, therefore, on-time operation is especially important.

Sidings Readjusted

Since the grades and curvature could not be improved readily to permit faster train speeds, the Norfolk & Western decided to install complete centralized traffic control as the best means of handling approximately 24 trains daily and maintaining uniformly fast schedules.

Not counting yard territories at Radford, Pulaski and Bristol, there were previously 25 sidings which were used regularly for meeting and passing trains. Within recent years, 10 of these sidings had been lengthened to capacities ranging from 103 to 132 cars. As part of the 1946 program, 4 more, at Clark, Rural Retreat, Atkins and Meadow View, were lengthened to hold 134 to 137 cars. These 14 long sidings, as well as 8 sidings with capacities ranging from 48 to 85 cars, were equipped with power switches and controlled signals in the C.T.C. system. This left 3 of the previous sidings. One of these, at Emory, was partially removed, leaving one switch leading to a spur. The 38-car siding at Wallace was left with hand-throw stands for use as a house track. A second of two sidings at Glade Spring was left with hand-throw stands. The locations and car capacities of the 22 C.T.C.-equipped sidings, as well as distances between the last switch of one siding and the first switch on the next, are indicated in a table herewith.

It will be noted that the distances between sidings are not uniform, this being a result of the fact that certain sidings were lengthened where practicable from the standpoint of minimum expense for cuts and fills. On the other hand, by applying power switches and signals to nearly all the sidings, 14 long ones and 8 shorter ones, the dispatcher has a very flexible range for making meets and passes on close timing. A more extensive program of rearranging sidings to reduce the number and to locate them on an exact time-distance

Station	Car Capacity of Siding
2.9 mi.	
Melborn	141
3.2 mi.	
Wysor	130
1.4 mi.	
Wurno	85
2.4 mi.	
Pulaski	81
2.4 mi.	
Granite	80
2.7 mi.	
Clark	137
5.6 mi.	
Max Meadows	103
3.5 mi.	
Kent	73
2.7 mi.	
Wytheville	123
4.3 mi.	
Grubb	68
2.1 mi.	
Crockett	131
3.1 mi.	
Rural Retreat	137
2.5 mi.	
Grosclose	48
3.7 mi.	
Atkins	134
4.2 mi.	
Marion	126
5.0 mi.	
McMullin	72
2.4 mi.	
Seven Mile Ford	126
1.9 mi.	
Chilhowie	68
4.4 mi.	
Glade Spring	114
3.0 mi.	
Meadow View	135
3.6 mi.	
Hayter	129
2.8 mi.	
Abingdon	51
4.6 mi.	
Wyndale	132
6.5 mi.	
Bristol	Yard

Westbound train at west end of Hayter siding

train operation basis, would have been much more expensive than the policy adopted to equip all but three of the original 25 sidings.

On account of adverse grade conditions, ordinarily the through freight trains do not consist of more than 70 cars, but extra siding capacity was provided wherever possible, for several reasons. One is to allow sufficient track length for a train to enter a siding at the speed for which the turnout is designed, and, after the rear end is in the clear, still have track length to stop from that speed. Long sidings are also a benefit in permitting trains to meet without either train being required to stop.

Semaphores to Light Signals

Previously this territory was equipped with automatic block signaling, including semaphore signals. As a part of the changeover, the semaphores were removed, the signals of the new C.T.C. system being of the position-light type. It is of interest that the Norfolk & Western does not use dwarf signals in C.T.C. territories. At the end of a siding, the main-track station-leaving sig-

nal and the leave-siding signal are both mounted on the platform of a bracket mast, located to the right of the siding. These signals are the same type and size, the only difference being that the leave-siding signal is mounted 6 ft. lower than the main-track signal.

Each siding is equipped with track circuits which enter into the control of the signals and also control lamps on the control machine to indicate occupancy of the sidings. The controls are so arranged that the signal for entering a siding cannot be cleared if the siding is occupied. Thus, if such a signal displays a Medium-Clear aspect, the engineman has confidence to pull into the siding at the speed for which the turnout is designed, i.e., 30 m.p.h. for a No. 15 turnout. In order to direct trains to approach at this speed when entering a siding, a second operative signal head was installed on each signal in approach to a power switch in the facing direction. Such a distant signal displays the Approach - Medium aspect when the entering signal displays the Medium-Clear aspect.

On intermediate automatic signals located on ascending grades of more than 0.95 per cent, the most restrictive aspect is a horizontal row of lights in the top unit and a row of lights at 45 deg. in the lower right-hand quadrant. This is a grade signal aspect which authorizes trains to pass this signal without stopping, and proceed at restricted speed, prepared to stop short of train or obstruction.

Rock-slide fence protection at a high bluff

Slide-Detector Fences

In order to arrange for numerous switching moves in the yard limits at Radford, Pulaski and Bristol, the switches and signals in the limits of these yards are controlled by separate small machines in the yard offices at these respective towns. The switches and signals outside these three yard limits, on the entire territory between Radford and Bristol, are controlled by one machine in the division dispatcher's office at Roanoke, Va., which is 43 mi. east of Radford. This machine is made up of one 5-ft. center panel and two 2.5-ft. wing panels at each end, thus totaling 15 ft. in length.

At locations in this C.T.C. territory where the track is close to rock bluffs, the Norfolk & Western has installed detector fences, as shown in an accompanying illustration. The posts are old rails, set in the ground, and extending as high as may seem necessary, depending on local conditions. Ordinary hog wire fencing extends from each end of the fence to a location near the center, the ends of the fencing being tied around sections of 1½-in. pipe. At the intermediate posts the wire is held loosely in loops. At the far ends, these pipes are attached by adjustment bolts, while at the center, they are held under tension by coil springs to keep the fence taut. From the pipe for each fence section a small wire cable extends to a trigger mechanism. At the center location there is a circuit controller, normally held in the closed position by a trigger, which is tripped when a rock strikes any section of the fence.

When the controller operates, the circuits are opened to set the signals at their most restrictive aspects. When a train arrives and stops at the signal, a member of the crew walks to the slide location to determine the damage, and to telephone the dispatcher. The maintainer must be called to restore the controller to its normal position.

The benefits accomplished by the centralized traffic control have been to increase the capacity of this single-track line and to expedite train movements by reducing delays on sidings. As a general rule, the through passenger trains were given preference before and, therefore, there has not been much chance for improvement other than advancing meets in case opposing trains are late. With C.T.C., the greatest improvement is in the operation of freight trains, because the dispatcher can direct them by signals to keep moving for close meets rather than waiting on sidings. The dispatcher reports that approximately 50 per cent of the meets are so well timed that neither train stops.

With the C.T.C., a passenger train which is received late can make up time in the territory. On the average, the through freights make the 108-mi. run either way between Radford and Bristol in about 3 hr., which is much better than under timetables and train orders. The C.T.C. is especially beneficial when anything goes wrong. For example, under train orders, if a train pulled a drawbar in a section where there was no operator on duty for 20 mi. each way, the road would be tied up for

Map showing location of the C. T. C. territory between Radford and Bristol

hours before trains could be moved normally again. Now, with C.T.C., as soon as a crew telephones that a drawbar is down, the dispatcher can hold the trains back as required. Then as soon as the difficulty is taken care of, all trains can be directed to get under way promptly.

This centralized traffic control was planned and installed by Norfolk & Western forces under the direction of J. A. Beoddy, superintendent of telegraph and signals, the major items of equipment being furnished by the Union Switch & Signal Co.

June Purchases 3 Per Cent Above May

High volume of equipment orders offsets drop in materials buying

THE high volume of equipment purchases during June raised railroad buying during that month almost 3 per cent above May expenditures for equipment and supplies. Total expenditures for rail, ties, fuel and other materials during June were $150,749,000, a drop of 7 per cent from May of this year. All classes of materials and supplies lagged behind May buying of similar materials. However, equipment purchases more than made up this difference and put the total up almost $16,000,000 from May.

At the same time as buying of materials, fuel and supplies was slumping somewhat inventories were rising, reaching the record total of $727,307,000, a rise of one-tenth of one per cent over the May total of $720,591,000. Even materials such as rail and crossties, whose inventories normally are depleted during the summer months due to rail and tie renewal programs, showed either a rise or only a slight decline. June rail inventories were up 4 per cent from May stocks, while ties on hand declined only two-tenths of one per cent.

These high inventories and the uncertain earnings prospect of the railroads are perhaps reflected in the drop in supply purchases.

The accompanying tables have columns for comparison by percentage. Each month or six months of a year is compared to the present month (June) or to the first six months of this year. Percentage figures indicate the rise or fall of this month's or this year's purchases as compared to the same month or period of another year. Thus in table one, June purchases of manufacturers goods are 31 per cent above those of June, 1946, etc.

1947 RAILWAY PURCHASES

June purchases of $214,587,000 raised the total volume of railway purchases for 1947 to $1,282,109,900.

	June, 1947	Cumulative total, 1947
Equipment*	$63,838,000	$334,579,900
Rails	6,178,000	41,879,000
Crossties	7,676,000	46,456,000
All other materials	88,128,000	536,832,000
Total from manufacturers	$165,820,000	$959,746,900
Fuel	48,767,000	322,363,000
Grand total	$214,587,000	$1,282,109,900

* Amount placed on order.

June* Purchases of Manufactured Goods (Not Including Fuel and Equipment)

June '47 Compared to Other Junes (000)

Year	Amt.	% Change
1941	$68,483	+ 49
1942	71,789	+ 42
1943	72,333	+ 41
1944	88,448	+ 15
1945	83,600	+ 22
1946	78,111	+ 31
1947	101,982	

June '47 Compared to Other Months '47 (000)

Month	Amt.	% Change
Jan.	$101,789	+ .2
Feb.	92,196	+ 11
Mar.	104,312	— 2
Apr.	115,189	— 12
May	109,699	— 7
June	101,982	

Six Month Totals '47 and Other Years (000)

Year	Amt.	% Change
1941	$370,580	+ 69
1942	455,447	+ 37
1943	389,313	+ 61
1944	504,789	+ 24
1945	486,690	+ 28
1946	458,324	+ 36
1947	625,167	

* Subject to revision

June* Purchases of Rail

June '47 Compared to Other Junes (000)

Year	Amt.	% Change
1941	$4,861	+ 27
1942	5,829	+ 6
1943	4,584	+ 34
1944	6,508	— 5
1945	6,627	— 7
1946	3,840	+ 60.8
1947	6,178	

June '47 Compared to Other Months '47 (000)

Month	Amt.	% Change
Jan.	$7,810	— 21
Feb.	7,109	— 13.1
Mar.	6,855	— 10
Apr.	6,843	— 10.3
May	7,085	— 13.2
June	6,178	

Six Month Totals '47 and Other Years (000)

Year	Amt.	% Change
1941	$29,805	+ 41
1942	28,943	+ 45
1943	27,233	+ 54
1944	39,258	+ 7
1945	35,659	+ 17
1946	24,196	+ 73
1947	41,878	

June Purchases of Crossties

June '47 Compared to Other Junes (000)

Year	Amt.	% Change
1941	$4,025	+ 91
1942	6,138	+ 25
1943	6,826	+ 12
1944	7,589	+ 1
1945	6,138	+ 25
1946	7,011	+ 9
1947	7,676	

June '47 Compared to Other Months '47 (000)

Month	Amt.	% Change
Jan.	$7,179	+ 7
Feb.	6,704	+ 14
Mar.	7,930	— 3
Apr.	8,819	— 13
May	8,148	— 6
June	7,676	

Six Month Totals '47 and Other Years (000)

Year	Amt.	% Change
1941	$26,633	+ 74
1942	23,614	+ 97
1943	35,247	+ 32
1944	42,684	+ 9
1945	34,869	+ 33
1946	42,577	+ 8+
1947	46,456	

June Purchases of Other Materials (Excl. Fuel, Rail and Ties)

June '47 Compared to Other Junes (000)

Year	Amt.	% Change
1941	$59,597	+ 48
1942	59,822	+ 47
1943	60,923	+ 45
1944	74,351	+ 19
1945	70,835	+ 24
1946	67,260	+ 31
1947	88,128	

June '47 Compared to Other Months '47 (000)

Month	Amt.	% Change
Jan.	$86,800	+ 2
Feb.	78,383	+ 12
Mar.	89,528	— 2
Apr.	99,527	— 11
May	94,466	— 7
June	88,128	

Six Month Totals '47 and Other Years (000)

Year	Amt.	% Change
1941	$317,161	+ 69
1942	392,282	+ 36.8
1943	326,823	+ 64
1944	422,847	+ 27
1945	416,162	+ 29
1946	391,551	+ 37
1947	536,833	

June Purchases of Fuel

June '47 Compared to Other Junes (000)

Year	Amt.	% Change
1941	$27,331	+ 78
1942	35,290	+ 38
1943	38,019	+ 28
1944	49,706	— 2
1945	48,215	+ 1
1946	40,928	+ 19
1947	48,767	

June '47 Compared to Other Months '47 (000)

Month	Amt.	% Change
Jan.	$58,490	— 17
Feb.	54,612	— 11
Mar.	57,447	— 15
Apr.	51,486	— 5
May	51,561	— 6
June	48,768	

Six Month Totals '47 and Other Years (000)

Year	Amt.	% Change
1941	$158,334	+104
1942	203,818	+ 58
1943	262,101	+ 23
1944	306,059	+ 5
1945	282,167	+ 14
1946	255,079	+ 27
1947	322,790	

June Total Purchases (Excl. Equipment)

June '47 Compared to Other Junes (000)

Year	Amt.	% Change
1941	$95,814	+ 57
1942	107,079	+ 41
1943	110,352	+ 37
1944	138,154	+ 9
1945	131,815	+ 14
1946	119,039	+ 27
1947	150,749	

June '47 Compared to Other Months '47 (000)

Month	Amt.	% Change
Jan.	$160,279	— 6
Feb.	146,808	+ 3
Mar.	161,760	— 7
Apr.	166,675	— 10
May	161,260	— 7+
June	150,749	

Six Month Totals '47 and Other Years (000)

Year	Amt.	% Change
1941	$528,914	+ 79
1942	659,535	+ 44
1943	651,414	+ 45
1944	810,848	+ 17
1945	768,857	+ 23
1946	712,953	+ 33
1947	947,531	

June Inventories of Rail

June '47 Compared to Other Junes (000)

Year	Amt.	% Change
June 1, 1942	$23,562	+ 19
1943	19,424	+ 44
1944	22,637	+ 24
1945	24,238	+ 15
1946	23,200	+ 21
1947	27,990	

June '47 Compared to Other Months '47 (000)

Month	Amt.	% Change
Jan.	$30,192	— 7
Feb.	31,447	— 11
Mar.	31,217	— 10
Apr.	29,775	— 6
May	26,875	+ 4
June	27,990	

* Subject to revision.

June Inventories of Crossties

June '47 Compared to Other Junes (000)

Year	Amt.	% Change
June 1, 1942	$62,424	+ 44
1943	60,479	+ 48
1944	79,004	+ 14
1945	70,302	+ 28
1946	75,953	+ 18
1947	89,782	

June '47 Compared to Other Months '47 (000)

Month	Amt.	% Change
Jan.	$83,891	+ 7
Feb.	88,293	+ 2
Mar.	92,861	— 3
Apr.	97,549	— 8
May	89,906	— .2
June	89,782	

June Inventories of Miscellaneous Materials and Supplies

June '47 Compared to Other Junes (000)

Year	Amt.	% Change
June 1, 1942	$392,441	+ 38
1943	370,995	+ 46
1944	413,410	+ 31
1945	450,437	+ 20
1946	455,860	+ 19
1947	542,096	

June '47 Compared to Other Months '47 (000)

Month	Amt.	% Change
Jan.	$476,625	+ 14
Feb.	490,734	+ 10
Mar.	498,159	+ 9
Apr.	519,985	+ 4
May	535,071	+ 1
June	542,096	

June Inventories of Scrap

June '47 Compared to Other Junes (000)

Year	Amt.	% Change
June 1, 1942	$10,689	+ 2
1943	10,167	+ 7
1944	10,346	+ 6
1945	10,110	+ 8
1946	10,872	+ .5
1947	10,929	

June '47 Compared to Other Months '47 (000)

Month	Amt.	% Change
Jan.	$12,572	— 13
Feb.	11,929	— 8
Mar.	17,017	— 36
Apr.	11,221	— 3
May	12,766	— 14
June	10,929	

June Inventories of Fuel

June '47 Compared to Other Junes (000)

Year	Amt.	% Change
June 1, 1942	$44,574	+ 27
1943	58,172	— 3
1944	56,885	— 1
1945	51,402	+ 10
1946	42,875	+ 31
1947	56,509	

June '47 Compared to Other Months '47 (000)

Month	Amt.	% Change
Jan.	$49,873	+ 13
Feb.	51,164	+ 10+
Mar.	52,234	+ 8
Apr.	51,207	+ 10+
May	55,973	+ 1
June	56,510	

June Inventories—Total All Materials, Supplies and Fuel

June '47 Compared to Other Junes (000)

Year	Amt.	% Change
June 1, 1942	$533,690	+ 36
1943	519,237	+ 40
1944	582,282	+ 25
1945	606,489	+ 20
1946	608,760	+ 19
1947	727,307	

June '47 Compared to Other Months '47 (000)

Month	Amt.	% Change
Jan.	$653,153	+ 11
Feb.	673,567	+ 8
Mar.	691,487	+ 5
Apr.	709,738	+ 2
May	720,591	+ .1
June	727,307	

* Subject to revision.

* * *

The Winona, formerly an electric line, now operates General Electric 44-ton locomotives each powered by two Caterpillar Diesel engines

Study Board Reports

(*Continued from page 69*)

debt in recent years." Such reduction, during the 1941-1945 period, was put at $1,968 million. And the committee noted that the cut "was not primarily the result of bankruptcy proceedings," about two-thirds of the total net reduction having been made by "solvent companies." The debt reductions, of course, resulted in decreases in annual fixed charges, which the committee found down from $681 million in 1927 to $469 million in 1946.

Encouraging Outlook, If—

"All of these figures," the report continued, "lead to the conclusion that the railroad future is far from discouraging, provided the railroads are permitted to earn a fair rate of return upon their investment. If earnings . . . on the fair and reasonable basis of an average of 6 per cent can be brought about, . . . the railroads should be able to meet their obligations, pay reasonable dividends, and thereby improve their credit standing to the point where there will be sufficient capital to carry on a program of improvements essential to the welfare of this great industry."

The committee next reported that the state of railroad public relations was of "paramount importance" to the industry. It explained that "practically every phase of railroading is affected to some extent by public opinion as reflected in legislation, regulation, and taxation in the field of transportation." While the railroads were found to be giving "increasing attention" to the matter, the committee nevertheless went on to state the "obvious," i.e., that "the cultivation of favorable public relations is a matter which deserves the attention of chief executive officers," and that "the direction of public-relations activites is an important duty for the president or a full-time executive assistant."

"There can be no doubt," the report continued, "that the railroads have been backward to some extent in this matter of public relations, as manifested in failure to inform the public promptly and fully as to reasons why particular policies have been adopted. Every effort is worthwhile to convince the members of the public that the railroad which serves a particular community is a home institution, a neighbor of other citizens of the community, and operated for the benefit of the public primarily. . . . At the same time, however, it is equally important to emphasize that those who have invested their money in railroad property are entitled, by every principle of equity, to a fair return upon their investment."

The committee's discussion of "public aids" noted that railroads and pipe lines are the only carriers which are not subsidized to any extent at present. It went on to call subsidies "undemocratic" in that they "partake of the nature of special privileges" and are thus "characteristic of totalitarian states—a survival of the feudal idea that certain favorites should be granted special rights and privileges."

The subcommittee reports show, "in almost every section dealing with competitive transportation," that the railroads "are justified in making complaint about the unequal treatment accorded them in the matter of public aids."

"If these subsidies are to be continued and expanded for improved waterways, airfields, airways, and highways," the committee continued, "those who fatten on these government doles should be required, in any event, to pay sums for the use of facilities so furnished in an amount sufficient to maintain the facilities and amortize the cost over a reasonable period of years."

This brought the committee to its consideration of taxation where it also found "need for reform," because the railroads are "disadvantaged on every hand." The subcommittee studies show that in 1943, for example, the railroads paid 2.91 per cent of their gross revenues for state and local taxes, while the air lines paid 1.61 per cent. So far as water lines are concerned, the amount they pay in local taxes "may be conservatively described as negligible." Previously the report had said of motor carriers that even if they pay enough to compensate for their use of public facilities ("and there is much to be said to the contrary"), the fact then remains that they pay "inadequately indeed toward defraying the cost of the ordinary functions of government." The summary comment on taxation closed with a reference to payroll taxes where the committee found the railroads paying on the basis of an 8.75 per cent rate, as compared with the rate of about 2.7 per cent paid by other industries, including railroad competitors.

Calls for Uniform Regulation

The lack of uniformity in regulatory policy was characterized by the committee as "another matter of major importance in connection with the subject of differences in government treatment of transport agencies." It pointed out that railroads, pipe lines, and water carriers engaged in domestic commerce are regulated by the Interstate Commerce Commission, whereas air carriers are regulated by the Civil Aeronautics Board, "which is a promotional as well as a regulatory agency." Moreover, air-carrier operations are also "furthered and promoted" by the Civil Aeronautics Administration which "spends large sums of money annually for purposes which have the result of reducing the operating, research, and other costs of air lines." The committee went on to stress what it conceives to be the need for a uniform policy of regulation.

"Throughout our studies," it said, "we lay emphasis upon the necessity for all forms of transportation to be regulated along the same lines of policy, by the same administrative agency. This is absolutely necessary if we are to have a coordinated system, where all forms will be treated fairly, and all encouraged to do the work for which each is qualified. Attention is also invited to inequalities of regulatin arising out of exemptions which are provided in the law, and differences in the impact of enforcement of laws and regulatory provisions applying to different agencies of transportation."

The committee concluded its summary by setting forth its general finding that the railroads, "for more than a century," have "demonstrated their capacity for growth and development" in advance of the country's transportation needs. "They are," it added, "proud of their record, and the sum of their objectives, as presented in this volume, is to reach new heights of public usefulness, on the merits of their service. Given no more than the traditional American equality of opportunity, the railroads believe that they and the public can look forward with assurance to continuance of their effective contributions to the national welfare and progress."

A new bottle warmer in use on the C. & O. consists of a block of aluminum with spaces to hold a bottle and a hermetically-sealed heating unit. The unit heats a baby bottle to 102 degrees in two to three minutes. It is a product of Heatron, Inc.

A 1,500-hp. Alco-G. E. locomotive in service on the Delaware & Hudson

1,500-Hp. Diesel-Electric Road Switcher

Control equipment including a tachometer generator and amplidyne exciter holds engine speeds to preset values and limits generator demand to engine output

MORE than 100 new American Locomotive Company-General Electric Company 1,500-hp. Diesel-electric road-switching locomotives are operating on, or are on order for, American railroads. Designed for switching, transfer or passenger operations, this 115-ton, four-axle unit is capable of hauling heavy loads at speeds up to 80 m.p.h.

The locomotive is equipped with a 1,500-hp. turbo-supercharged V-12 Diesel engine and four electric traction motors, geared to each of the four driving axles. It has an overall length of 55 ft. 5¾ in. and delivers a starting tractive force at 25 per cent adhesion of 57,500 lb. With 65-m.p.h. gearing, it has a continuous tractive force of 42,500 lb. It has capacity for 200 gal. of lubricating oil, 800 gal. of fuel oil, and 250 gal. of engine-cooling water. For train heating, a steam generator can be installed in the rear hood with a capacity of 1,600 lb. of steam per hour at 200 lb. per sq. in. Water is carried in an 800-gal. welded steel tank attached to the underframe.

The engine is an Alco Series 244, V-type, and has 12 cylinders with 9-in. bore and 10½-in. stroke. It is a four-cycle engine, and has two intake and two exhaust valves per cylinder. It employs a unit fuel injection system, water-cooled cylinder liners and heads, trunk-type oil-cooled pistons, forged-steel connecting rods, seven-bearing crank-shaft and welded cylinder block and base.

Engine lubrication through a full-pressure system is provided by a gear-type pump integral with the engine, oil being supplied from 250-gal. reservoir in the engine base. Filters are of the full-flow type and the lubricating oil is cooled by a single-pass cooler. Failure of the engine lubricating oil system automatically stops the engine.

An electrically driven transfer pump, located in the engine compartment, supplies fuel from the supply tank to the injection pumps. The supply pipe to the transfer pump is fitted with a duplex waste-packed filter on the suction side and a felt filter on the discharge side. In the discharge pipe from the transfer pump there is both a pressure relief valve and a pressure gage.

Engine cooling is accomplished by a gear-driven centrifugal pump, which circulates water through the engine, radiators and lubricating oil cooler. Radiators of the panel type are mounted

vertically at the sides of the radiator compartment at the forward end of the locomotive.

Mounted in the roof of the radiator compartment, the 60-in. aphonic radiator fan is driven through a right-angle gear box and an eddy-current clutch. The clutch is located between the gear box and the engine drive-shaft coupling. This clutch design provides a damper in the drive system against shocks or vibrations and permits a modulated fan-speed control not available even with direct drive. Air is drawn through the radiators and exhausted through a screened opening in the roof.

The fan speed and thermostat-actuated radiator shutter control are synchronized so that when the shutters are closed, the fan is automatically cut off. When desired, the fan can be stopped entirely, independently of the engine. Temperature control for the engine is thus reduced to one variable—the temperature of the jacket water. Shutters can be closed manually to protect the cooling system during stand-by periods.

Electric Transmission

The electric transmission system consists of the main generator, an amplidyne exciter, and four traction motors, one mounted on each of the four driving axles. A belt-driven auxiliary generator is also included to supply power for lighting, battery charging and control circuits and operates at constant voltage under control of a regulator.

The 10-pole main generator, direct-connected to the Diesel engine, is rated 1,500 hp. at 1,000 r.p.m. It is constructed with a single low-voltage, shunt-excited winding for amplidyne excitation. Using a special starting winding and current from the storage batteries, the main generator acts as a motor for starting the engine.

The four traction motors are GE-752, four-pole, d.c. commutating-pole motors, designed for operation with full or shunted field. Pairs of traction motors are ventilated by a multivane traction-motor blower, belt-driven from the Diesel engine.

Mounted on the generator and connected into its shunt-field winding, the amplidyne exciter functions to increase or decrease generator output by increasing or decreasing current supplied to the field. Utilizing exceptionally low current from the control circuit, the exciter amplifies this low current to obtain a volume of excitation current large enough to modify generator output quickly. By harnessing an internal short-circuit and putting it to work, it can magnify a control current as much as 10,000 to 1 and can reach full required output in one-tenth of a second or less.

The engine control equipment has been distributed between the control stand and the gage panel in the operator's cab. The contactor compartment forms the forward wall of the cab. "Packaged" units of equipment are used in the control system to allow ready removal of assemblies for repair and a replacement unit installed. Multi-point connection plugs permit easy connecting and disconnecting of assemblies.

The control stand, conveniently located at the left of the engineman's position in the cab, mounts the master controller, selector and reverser handles, air-brake controls, air-brake gages, load meter and speedometer, headlight and rear light switches and other control switches required. The gage panel, forward of the engineer, incorporates various engine gages, fan control and low oil-pressure and high engine-water temperature warning lights. Electrical control equipment as well as switches for motor cut-out control and ground relay cut-out are located in the contactor compartment.

The control system is a type P, single-end, single-unit control. All reversers and line contactors are electro-pneumatically operated while all other contactors function magnetically. A selector handle on the control stand manually operates transition, both forward and back. There are four traction-motor connections: series-parallel full field, series-parallel shunt field, parallel full field, and parallel shunt field. On auxiliary circuits wherever overload protection is required, manual low-voltage circuit-breaker type switches with reset feature are used.

Power Plant Regulating System

The G.E. electro-hydraulic power plant regulating system automatically governs the operation of the power plant to produce—in so far as is safe and possible—performance called for by the engineman. Preset engine speed is held constant, engine torque is limited, and generator demand is adjusted to suit the engine's ability to deliver power at any moment.

The system comprises a tachometer generator and the governor, mounted on opposite ends of the engine. The tachometer generator is driven by the engine and its electrical output is directly proportional to the speed of the engine. The governor, energized by the tachometer generator, transforms the electrical impulse from the tachometer generator into mechanical action to control the fuel racks of the engine. Through the amplidyne exciter, it also controls generator demand.

The system operates stably over a wide speed range and permits the use of the lowest possible engine speed commensurate with power requirements. The feedback from the electrical load causes the control to anticipate the speed changes which would be produced by changes in generator demand, and therefore minimizes transient regulation.

Engine protection safety features are built into the governing system. Overspeed protection is provided by an overspeed trip switch which automatically cuts off the fuel supply. If engine lubricating-oil pressure drops to the danger level, a short-circuiting switch drops the engine speed to idle. Similar switches operate on occurrence of a ground in the main power circuit. High engine temperature causes a red bullseye to be illuminated as a warning to the crew. The system is so designed that in case of any trouble, it "fails safe."

Underframe and Superstructure

The underframe is of steel-plate construction, fabricated by electric welding. Truck center plates of cast steel are welded to the frame and equipped with hardened-steel liners. Standard Type E top-operated swivel couplers, with side uncoupling levers, are housed in cast-steel pockets at each end of the locomotive.

Superstructure of the locomotive is of welded steel construction, thoroughly braced and secured to the underframe. The operator's cab has a hardwood floor elevated above the underframe; the walls are paneled with Masonite while the roof is lined with wood. One cushioned swivel seat is provided for the operator with an additional box-type seat on the left side of the cab. Steel doors at the left-front and right-rear give access to walkways along hoods while a door in the rear wall of the cab allows entry to the rear hood. All windows are of safety glass with two sliding sashes in the right window and three in the left.

The front hood, forward of the operating cab, covers the Diesel engine and associated electrical and mechanical equipment, with the radiator compartment located in the forward section. Steel doors in sides and roof provide access to engine, generators and electric equipment. Hood sections over the engine and generators are removable. Entry to the contactor compartment is possible through doors in the front wall of the operating cab and panels in the front partition.

The rear hood, which is fitted with steel doors and louvers in each side, is removable.

Each unit has two four-axle, swivel, swing-motion, pedestal-type motor trucks of cast steel construction. The truck frames are spring-supported on two equalizers on each side with triple coil springs between the equalizers and

the frame. Triple elliptic springs are used between the spring planks and bolsters. The center plates are equipped with safety locks.

Forged open-hearth steel axles, with 6½-in. by 12-in. journals, mount 40-in. rolled-steel wheels. All axles are driving axles with axle-supported motors having spring-base suspension on the truck transoms. All wheel and axle assemblies are removable with the motors. Forced ventilation for the traction motors is supplied through flexible connections between the underframe ducts and the motor frames. Hardened spring-steel liners are used on truck pedestals jaws and journal boxes, with high-carbon steel liners for center-plates. Side bearings are of plain steel with swivel-limiting devices.

The trucks are equipped with clasp brakes on all wheels. There are two brake shoes per wheel, and the braking system on each truck is operated by four 10-in. by 8-in., single-acting brake cylinders. A hand brake, connected to the rear truck, is located outside the rear end of the rear hood.

Washer for Electric Locomotives

THE Pennsylvania has installed a semi-automatic washing machine for electric locomotives at its Sunnyside yards in New York. It incorporates a number of special features including some required for this specific application. It is designed to wash 100 locomotives in 24 hours, each washing requiring 15 minutes as compared with 55 minutes for doing the work by hand. Its primary purpose is to allow the locomotives to be returned to service more quickly and it is expected that by permitting more frequent and more thorough cleaning, it will reduce the repairs and replacements required.

The washer, which is about 300 ft. long, is built in two sections, one for washing and the other for rinsing. Washing solution and water are applied by sprays, and motor-driven vertical and horizontal rotating hinged brushes on each side scrub the sides of the locomotive as it passes through the washer.

A locomotive to be washed is brought to the washer on its own power. The section of the overhead contact wire over the washer is insulated from the live section and is grounded. The rear pantograph is used to bring the locomotive partly under the grounded section, and at this position the locomotive has passed over a cable-drawn "barney" in a pit. Also at this position, there are hinged, curved platforms which are swung out around each end of the locomotive and from which the ends of the locomotive are washed by hand.

When the ends are washed, the hinged platforms are swung aside and the "barney" is drawn up out of its pit to push against the rear coupler of the locomotive. It has four wheels running on a narrow-gage track inside the full-gage track and is drawn back and forth by a 50-hp. reversible motor which drives a loop of cable attached to the "barney." Both pantographs are down as the locomotive is pushed slowly through the washer.

If it is required by the locomotive condition, a solution of oxalic acid is used for washing. If the surface to be washed is not very dirty, only cold water is used. After the locomotive proceeds through the washer, and just before it reaches the rinsing machine, 4 two-jet rotating nozzles project streams of 180-deg. F. water against the sides of the running gear. Cold water only is used in the rinsing machine In the locomotive's final position as moved by the "barney," the forward pantograph is under a live trolley so that it may proceed under its own power.

The machine was designed and built by the Whiting Corporation, Harvey, Ill., in cooperation with engineers of the Pennsylvania's motive power department. It was erected by the New York division master mechanic's forces.

A Pennsylvania GG1 electric locomotive emerges from the rinsing end of the washing machine

Alcoa Roofing

Production of a new corrugated aluminum-alloy roofing, including a matching siding and attendant fittings and accessories, such as ridge roll, flashing, rivets, nails and straps, has been announced by the Aluminum Company of America, Pittsburgh, Pa.

Known as Alcoa industrial roofing, it is made of 0.032-in. material and is available in 5-ft. to 12-ft. lengths, and a width which covers 32 in. after allowing for a side lap of 1½ corrugations. These sheets are made from a special aluminum alloy, which is said to com-

bine strength with light weight, and are intended as a running mate for the standard Alcoa roofing sheet. The new material is said to be capable of supporting uniformly distributed loads of 50 lb. per sq. ft. on purlins spaced 6 ft. 5 in. center to center, and of 105 lb. per sq. ft. on purlins spaced on 3-ft. 6-in. centers.

The new roofing is said to be easily applied by a small force, to have high resistance to weathering, to require minimum maintenance, and to be particularly adapted for warehouses, storehouses, roadway buildings and other similar structures.

Freight-Rate Increase

(*Continued from page 74*)

the railroads talk is a figment of the imagination." He went on to assert that railroad estimates of their 1947 revenues are "low by $600 million," and that this year's net railway operating income will be "$300 million more" on the July basis than the railroads estimated in the original petition. Mr. Hamley also said that the "alleged unfavorable position" of the eastern roads "will not stand up under analysis."

Other statements in opposition to the interim increase included those of counsel for the Department of Agriculture, the Tennessee Valley Authority, the Southern Governors Conference, the Southern Traffic League, and various shipper interests. Among this group was Parker McCollester who represented, among others, the American Newspaper Publishers Association; and whom Chairman Aitchison asked if that association's membership included newspapers which "have been writing editorials telling us how to decide this case." Mr. McCollester admitted that it did.

Meanwhile, the only speaker on the matter who did not oppose summary relief was F. F. Estes, traffic manager of the National Coal Association, who stated that the association would not object to the railroad motion in so far as it proposed a temporary increase in bituminous coal rates. He added, however, that if a hearing on the interim phase is held, the association would like to be heard on the question of how the increase should be applied.

In the course of his remarks to counsel who made the opposition statements, Chairman Aitchison observed that the railroad motion was "really a sixth-section application" for special permission to file short-notice tariffs carrying the interim increases—a matter which the commission could handle administratively as it did the recent Pullman Company application for authority to increase charges. The cited action on the Pullman application was taken last week, as reported elsewhere in this issue.

Mr. Burchmore did not agree with Chairman Aitchison's description of the motion as a "sixth section application," but Mr. Aronson said that the chairman was right and thus disposition of the motion "does not require a report or findings. That concluded discussion of the railroad motion, but meanwhile a like motion was filed by the freight forwarders, who seek for themselves the same interim increases as may be granted to the railroads.

The matter came up for further discussion on the second day of the hearing when shipper counsel asked the commission to rule on the railroad motion so that in planning their cross-examination of railroad witnesses, they would know whether it was to be on the basis of the interim request or the permanent proposal.

The request for the ruling had been presented by Mr. Burchmore on behalf of the shippers' counsel who drafted it at a special meeting. He said that the shippers would need "from a week to 10 days" after completion of the railroad presentation to prepare their cases on the basis of the interim proposal, and "from 30 to 90 days" if the proceeding is to continue on the basis of the amended petition's request for permanent increases.

Mr. Aronson replied that any such delays would be "ridiculous," and he pointed out that shippers who found the 10 per cent increase excessive would be protected by the Interstate Commerce Act's reparations provisions. During the course of the discussion, Chairman Aitchison had stated that the commission had before it a "big rate case" as well as "this interim matter." He added that all parties would be given an opportunity to be heard, for "It is necessary . . . that everyone will be able to say that he was treated fairly by the commission."

Meanwhile, Mr. Aronson had on the opening day called the first railroad witness, who was Dr. Julius H. Parmelee, vice-president of the Association of American Railroads and director of its Bureau of Railway Economics. Like other scheduled railroad witnesses, Dr. Parmelee had submitted his proposed presentation to the commission in advance. These submissions, reviewed in the *Railway Age* of August 30, page 49, and September 6, page 69, were prepared on the basis of the original petition, and thus Dr. Parmelee revised his statement to make it cover the petition as amended. On the present basis of rates, he said, the railroads would incur in 1948 a deficit in net income of $241,800,000, which would be the largest deficit in railroad history, and the first in 10 years. He estimated that rate increases proposed in the amended petition would convert that prospective deficit into a net income of $940,800,000. Also, on the higher-rate basis, the 1948 net railway operating income would be $1,258 million, a return of 5.58 per cent, according to the Parmelee figures.

Caterpillar Diesel crane at work

The A. A. R. vice-president's revised figures further showed that since the filing of the original petition, the prices of railroad materials and supplies have risen by approximately 9 per cent and wages paid to railroad employees have gone up 8 per cent. As a result, he declared, the boosts in wages and prices of materials and supplies since last June are costing the railroads approximately $625,000,000 on an annual basis. At the same time, he testified that since 1939, the average price of railroad materials and supplies has gone up more than 87 per cent; railroad wage rates have risen over 67 per cent; and the rate of payroll taxes has mounted more than 52 per cent.

Dr. Parmelee also told the commission that other industries and agriculture have increased their prices "far and above" what the railroads have been permitted to do. As an example, he said that farmers received 190 per cent higher prices in August than they did in 1939 and paid "over 100 per cent" more for commodities which they purchased.

Among other things, the A. A. R. officer reminded the commission that 35,933 miles of railroad are still in bankruptcy, and that 29 roads, including the Pennsylvania, New York, New Haven & Hartford and New York Central, operated at a loss in 1946 "in spite of a record breaking volume of peacetime traffic."

GENERAL NEWS

Col. Johnson Answers "Rip Van Winkle" Ads

O. D. T. director says C. & O. is "typical offender" on matter of circuity

The Office of Defense Transportation, through its director, Colonel J. Monroe Johnson, has denied allegations made by Robert R. Young, chairman of the Chesapeake & Ohio, that there has been a "deliberate slowdown" of freight train speeds in the West. O. D. T.'s findings show that the C. & O. figure for freight train-miles per train-hour was 15.3 for the first six months of 1947 as compared to an overall United States average of 16. The findings were set out in Colonel Johnson's reply to several members of Congress who requested the O. D. T. to investigate Mr. Young's charges.

As noted in *Railway Age* of August 16, page 70, and August 23, page 54, Mr. Young, through public statements and the so-called "Rip Van Winkle" nationwide newspaper advertisements, had asserted in part that a study made by the Federation for Railway Progress, of which he is also chairman, revealed that what are advertised as "fast" freight trains on eight routes from West coast cities are scheduled to depart at exactly the same time and arrive in Chicago at exactly the same minute on the seventh morning after departure, despite wide divergence in distances and operating conditions. This and other charges were answered by William T. Faricy, president of the Association of American Railroads.

According to Colonel Johnson, sixth morning delivery at Chicago from the West coast by the western railroads is made by trains hauling perishable fruits. He said that unless a railroad could better that schedule by a full 24 hours, it would not benefit it to expedite its schedule because such traffic is always handled for morning delivery in the Chicago markets. At the same time, he explained that the present schedules permit the smaller communities producing perishables to transport their products to the main lines, thus enabling them to compete with communities situated on the main lines.

The O. D. T. director replied that while there may be some abuses of the time competition practices of railroads, the Interstate Commerce Commission's Bureau of Service is "actively engaged in effecting maximum utilization of equipment." He said that any operating practices which detract from such utilization and are brought to light are "promptly corrected" or referred to the commission's Bureau of Inquiry for prosecution.

Colonel Johnson asserted that the C. & O. was a "typical offender" in the matter of circuity and speed of movement during the first six months of 1947. He supported that contention with statistics showing that the C. & O.'s freight train-miles per train-hour was 15.3, while that on the western roads assailed by Mr. Young ranged from 15.7 on the Southern Pacific to 19.9 on the Atchison, Topeka & Santa Fe. He also observed that the freight train-miles per train-hour on the Norfolk & Western, described as a "similar parallel coal road" to the C. & O., averaged 15.9 for the same six-months period.

Colonel Johnson noted further that on the basis of car-miles per day—the average movement of serviceable freight cars in one day—the average on the C. & O. is 55.9, as compared with 60.4 on the N. & W.; 69.6 on the Santa Fe; 75.7 on the Union Pacific; 60.1 on the Chicago, Burlington & Quincy; 67.9 on the Southern Pacific; and 62.8 on the Missouri Pacific.

Colonel Johnson's reply also disclosed the results of an investigation of seven C. & O. rates and comparative short-line and C. & O.-route distances between points where the C. & O. has circuity but is permitted to enjoy the same rate under fourth section relief. "It would seem," Colonel Johnson remarked, "that this eastern situation would be as appalling to Mr. Young as the western."

The investigation was made by A. H. Gass, director of the O. D. T.'s Railway Transportation Department, who, in a memorandum to Colonel Johnson, concluded

(*Continued on page 89*)

Commutation Fare Rise in East Approved

The Interstate Commerce Commission has authorized 14 Eastern railroads to increase their interstate commutation and multiple fares. The commission's report in the Docket No. 29711 proceeding, written by Commissioner Rogers, noted that the conclusions reached are "substantially the same" as those recommended by Examiner Fuller, who, as reported in *Railway Age* of July 26, page 93, proposed a basis designed to remove "disparities" from existing scales in the New York City area and to give more consideration to the five-day week.

Commissioner Mahaffie filed a brief separate expression, concurring in part.

Clark Implies RRs Were War Profiteers

Department of Justice seeks reparations for more alleged overcharges

Another complaint against railroad freight rates charged on government shipments of war materials during the period from January 1, 1942, to June 30, 1946, has been filed with the Interstate Commerce Commission by the Department of Justice. It seeks reparations on the basis of allegations that rates on shipments of explosives and ammunition, which had ratings of 70 and 65 per cent of first class, minimum 20,000 or 30,000 lb., were unreasonable to the extent that they exceeded 35 per cent of first class with a 90,000-lb. minimum and 50 per cent of first class with a 60,000-lb. minimum.

The Justice Department's action brought a prompt rejoinder from the Association of American Railroads which said that A. A. R. President William T. Faricy had "denied emphatically that the railroads charged the government anything but lawful rates on wartime shipments of explosives and ammunition."

Object to "Profits"—A Department of Justice press release announcing the filing of the complaint quoted Assistant Attorney General John F. Sonnett as having said that the action had been "requested by the armed services." Previously the release had quoted Attorney General Tom C. Clark as having said: "Our investigation indicates that high explosives and ammunition traffic was most profitable to the railroads. In view of the importance of these shipments, all unreasonably high rates and profits should be recovered for the people."

The complaint points out that the explosives and ammunition involved had classification or exception ratings "equal to 70 per cent or more of first-class rates, based on minimum carload weights of 20,000 or 30,000 lb." It also reveals that those ratings were cut to 65 per cent of first class by a so-called section 22 quotation, i. e., a special rate accorded to the government under authority conferred by the Interstate Commerce Act's section 22. The complaint called this section 22 quotation an adjustment "purporting to have been a reduction in rates."

It went on to assert that a "substantial number" of the carload shipments involved weighed 90,000 lb. or more, and "produced car-mile (and in many instances train-mile) revenues . . . substantially greater

(*Continued on page 90*)

Clear Way for Pullman Rate-Increase Tariffs

I. C. C. permits publication but requests for suspension will be considered

The Interstate Commerce Commission on September 4 issued a "special permission" authorizing the Pullman Company to publish short-notice tariffs carrying its recently-proposed rate increases which are calculated to yield approximately $13,000,000 in additional annual revenues. The "special permission" authorizes publication of the tariffs on 20 days' notice, but the commission's announcement of that favorable action stated that it was "without prejudice to any person's right . . . to request suspension and investigation of the increased rates, fares or charges."

Pullman stated last week that it will take advantage of the "special permission" to publish the new tariffs with an October 1 effective date. The increased-rate proposals are those set out in Pullman's recent petition which was noted in the *Railway Age* of August 30, page 57. Among other adjustments, they will fix the minimum standard lower-berth rate at $3.50. This will take the place of present standard lower berth rates of $2.35, $2.65 and $2.95, and the $2.35 rate will thus be up 48.9 per cent. The percentages by which other lower-berth rates are increased will drop gradually to one per cent, which will be the increase applied to the present $17.35 rate. Where the present lower-berth rate is $17.70 or more, there will be no increase; nor will there be any change in seat charges for daytime travel in either sleeping or parlor cars.

Rates for upper berths and all types of room accommodations, subject to certain exceptions, will be increased by the same percentage as applied to the lower berth rates on which the upper berth and room rates are based while scale charges for exclusive use of standard cars for one-way trips will be hiked by the same percentage as applied to the lower berth rates on which the scale charges are based.

Pullman also will increase charter car per diem charges in standard sleeping cars from $62.40 per day, with a minimum charge for three days, to $80 per day, with the same minimum, applying proportionate increases in charges for periods over 30 days and for private car operations. Charter car per diem charges in tourist sleeping cars will be increased from $41.80 per day, with a minimum charge for three days, to $54 per day, with the same minimum, while tourist berth rates will be increased in proportion to the increase made in standard car berth charges.

Robert R. Young—chairman of the board of the Chesapeake & Ohio, and a leader of a group unsuccessful in bidding for the Pullman Company when it was disposed of, under court order, by Pullman, Inc.—when informed of the commission's action, said: "It's a pity that the [Pullman] company is getting an increase in fares on the old junk that's now in use. It is to be regretted that the old line railroad managements haven't been as quick to recognize the need for new sleeping car equipment as the commission has the need for rate adjustments to meet successive wage increases.

"If those behind the New York Central and Pennsylvania and our other 135 major railroads had not blocked our group's attempted purchase and modernization of the Pullman Company a year ago," Mr. Young added, "we would long since have ordered 100 per cent replacement of the nation's woefully depleted fleet of rolling tenements."

No plans have been announced for an increase in sleeping car charges in Canada, and it was stated in Montreal that no increase is contemplated at this time.

On September 9 Pullman notified ticket agents throughout the nation of the rate increases by circular and issued tariff supplements to guide them in computing new Pullman fares. The new rates will become effective on October 1, which is in compliance with the commission's order that 20 days' notice be given. Pullman is also seeking permission from some 40 states to make the rate increases effective on intrastate travel. As this issue of *Railway Age* went to press, authority for the raise had been granted by seven states.

As an example of how the rate increase will affect Pullman fares, the cost of sleeping car accommodations between Chicago and New York will increase 11½ per cent. For example, the present lower berth fare of $6.95 will become $7.75, with the cost of other accommodations increasing similarly. Between New York and Denver, Colo., sleeping car accommodations will cost 2¾ per cent more, or $15.75 for a lower berth, compared with $15.35 on the present basis.

U. P. Tests Truck Coordination for Head-End Business

Tests in the handling of headend traffic by truck between Omaha, Neb., and Grand Island, in coordination with Union Pacific trains, has reduced delays to passenger trains and resulted in a more efficient mail and bundle service for intermediate stations, P. J. Lynch, the road's vice-president in charge of operations, announced last week. The system may be extended westward as an outcome of the tests, Mr. Lynch stated.

A truck departs from Omaha and Grand Island daily, carrying mail, express and light freight destined for stations between the two cities, except Fremont and Columbus. Traffic picked up en route is deposited at the latter two cities and the two terminal points for transfer to trains. As an example of the improved service, Mr. Lynch said that two trains which made 682 stops between Omaha and Grand Island during June would now make only about 50 stops a month between the two cities. It was pointed out that the truck's departure time of 5 p. m. from Omaha and its return there at 9:30 a. m. allows pickups and deliveries between the close of business on one day and the start of business on the following day.

7 Months' Net Income Totaled $243,000,000

Net railway operating income for the same period was $429,381,444

Class I railroads in the first seven months of this year had an estimated net income, after interest and rentals, of $243,000,000, as compared with $12,000,000 in the corresponding period of 1946, according to the Bureau of Railway Economics of the Association of American Railroads. The seven-months' net railway operating income, before interest and rentals, was $429,381,444, as compared with $217,792,257.

Estimated results for July showed a net income of $37,000,000, as compared with $32,700,000 in July, 1946, while the net operating income for the 1947 month was $60,958,451, as compared with $63,029,671 in July, 1946. In the 12 months ended with July, the rate of return was 3.69 per cent, compared with 1.86 per cent for the 12 months ended with July, 1946.

Noting that the interim freight rate increases authorized last year by the Interstate Commerce Commission did not become effective until July 1, 1946, the A. A. R. statement observed that "railroad earnings in the seven months period last year were abnormally low, the first six months having included a period of industrial disturbances, work stoppages and railroad wage increases."

Gross Revenues Up—Gross in the seven months totaled $4,855,259,815, compared with $4,251,708,470 in the same period of 1946, an increase of 14.2 per cent. Operating expenses amounted to $3,803,597,598, compared with $3,627,624,405, an increase of 4.9 per cent.

Thirty-one Class I roads failed to earn interest and rentals in the first seven months, of which 15 were in the Eastern district, six in the Southern region and 10 in the Western district.

Class I roads in the Eastern district in the seven months had an estimated net income of $80,000,000, compared with a deficit of $40,000,000 in the same period of 1946. For July, their estimated net income was $8,000,000, compared with a net income of $14,000,000 in July, 1946.

These same roads in the seven months had a net railway operating income of $173,895,685, compared with $51,083,019 in the same period of 1946. Their net railway operating income in July amounted to $21,805,702, compared with $27,564,729 in July, 1946.

Gross in the Eastern district in the seven months totaled $2,230,980,186, an increase of 19.2 per cent compared with the same period of 1946, while operating expenses totaled $1,790,338,946, an increase of 8.3 per cent.

Class I roads in the Southern region in the seven months had an estimated net income of $35,000,000, compared with a deficit of $1,000,000 in the same period of 1946. For July, they had an estimated net

Class I Railroads—United States

	1947	1946
Month of July		
Total operating revenues	$ 705,361,414	$ 674,111,738
Total operating expenses	535,361,881	542,219,369
Operating ratio—per cent	78.73	80.43
Taxes	74,948,797	54,905,884
Net railway operating income (Earnings before charges)	60,958,451	63,029,671
Net income, after charges (estimated)	37,000,000	32,700,000
Seven Months Ended July 31, 1947		
Total operating revenues	$4,855,259,815	$4,251,708,470
Total operating expenses	3,803,597,598	3,627,624,405
Operating ratio—per cent	78.34	85.32
Taxes	526,519,360	321,334,107
Net railway operating income (Earnings before charges)	429,381,444	217,792,257
Net income, after charges (estimated)	243,000,000	12,000,000

income of $1,800,000, compared with a net income of $700,000 in July, 1946.

Those same roads in the seven months had a net railway operating income of $61,899,181, compared with $36,157,421 in the same period of 1946. Their net railway operating income in July amounted to $4,977,245, compared with $5,473,047 in July, 1946.

Gross in the Southern region in the seven months totaled $688,910,408, an increase of 9.9 per cent compared with the same period of 1946, while operating expenses totaled $542,807,764, an increase of 2.6 per cent.

In the West—Class I roads in the western district in the seven months had an estimated net income of $128,000,000, compared with $53,000,000 in the same period of 1946. For July, they had an estimated net income of $28,000,000, compared with a net income of $18,000,000 in July, 1946.

Those same roads in the seven months had a net railway operating income of $193,586,578, compared with $130,551,817 in the same period of 1946. Their net railway operating income in July amounted to $34,175,504, compared with $29,991,895 in July, 1946.

Gross in the Western district in the seven months of 1947 totaled $1,935,369,221, an increase of 10.4 per cent compared with the same period of 1946, while operating expenses totaled $1,470,450,888, an increase of 1.7 per cent.

Faricy Calls Wage Increase "Staggering Blow"

The fate of the nation's railroads depends on whether the Interstate Commerce Commission grants the increase in freight rates now being sought by the rail carriers, William T. Faricy, president of the Association of American Railroads, said on September 10, speaking before the Traffic Club of New York. Mr. Faricy declared that "never in their long history have the railroads been in greater need of prompt and intelligent consideration at the hands of the commission." He added that with the tremendous increase in the cost of railroad operation, the only thing that has kept the railroads going financially has been an unprecedented peacetime volume of traffic.

"Any substantial recession in traffic," he continued, "would have immediate repercussions because the high level of operating costs is now fixed through wage rates and costs of materials and supplies, and there was so little cushion left, even before the recent wage increase, that disaster would speedily overtake the railroads with any substantial drop-off in traffic."

The A.A.R. head called the recent wage increase award of 15½ cents an hour to non-operating railroad employees "a staggering blow to the railroads." This award, he pointed out, increased railroad costs by $438 million a year, which is $150 million more than the railroads' net income in 1946 and $125 million more than the estimated net income for 1947. "Every time the sun goes down," Mr. Faricy said, "the railroads are now incurring a liability of $1¼ million for that wage increase, without a chance of getting back a single dollar of it until such time as the Interstate Commerce Commission authorizes increases in freight rates."

Although other industries have stood up under increases in wages this year of 15 or 15½ cents an hour, Mr. Faricy declared that the impact of such an increase on the railroads is much harder. The reason for this, he explained, is that wages take a larger percentage of revenues in the railroad industry than they do in any other major industry except coal mining, and, unlike these other industries, the railroads are not free to raise the price of their product without first obtaining permission from the Interstate Commerce Commission and the various state commissions under time-consuming procedures. Wages in the railroad industry, he stated, consumed about 50 per cent of gross revenues even before the recent substantial increase, while wages in the oil industry take only 6 per cent of operating revenues and those in the manufacturing industries an average of 20 per cent.

Mr. Faricy called attention to the fact that since 1939, the average price of railroad materials and supplies has gone up more than 87 per cent, railroad wage rates have increased over 67 per cent, and the rate of payroll taxes has risen more than 52 per cent, while railroad freight rates have increased only 17½ per cent and passenger fares but 12 per cent. "A business simply cannot make ends meet on that kind of lack of balance between what it pays out and what it takes in," he contended. "The railroads cannot levy taxes and they cannot print money. They must pay their bills out of what they take in at the gate, so to speak, and if they fail in that, they will cease to be the mainstay of private enterprise in this country, as they are now."

Comparing the greatly increased cost of commodities with the small rise in freight rates, the A.A.R. president said that "the price which the customers of the railroads are getting for their products has gone up so much since 1939 that no longer is the ratio of the freight rate to the value of the commodity transported anything like it was before the war." By July of this year, he stated, the wholesale price index was about 95 per cent above what it was in 1939, and many commodities had increased in price more than 100 per cent. Yet railroad freight rates, he added, are only 17½ per cent higher than they were in 1939.

Mr. Faricy expressed the opinion that "the railroads will survive the pressing problems with which they are now confronted if the Interstate Commerce Commission deals promptly with the present rate application in the statesmanlike way of which it is capable." Moreover, he said, they will "survive in private enterprise and go on to greater accomplishments than have yet been dreamed of."

In discussing the present car shortage, Mr. Faricy said that in spite of the shortage the railroads today are handling more tons of freight more miles than ever before in peacetime. More carloads of grain have been moved so far this year than ever before in history, he reported, and more coal was transported for export in the first eight months of this year than was carried in the entire year of 1946. Declaring that the shortage in open-top cars at the present time is more serious than the box car shortage, Mr. Faricy said that "when coal cars are used for export business and are held at the ports for availability of ships, that raises havoc with railway car supply, and that is one of the reasons the railroads are having so much trouble in getting enough cars to handle the coal and other commodities requiring open-top cars."

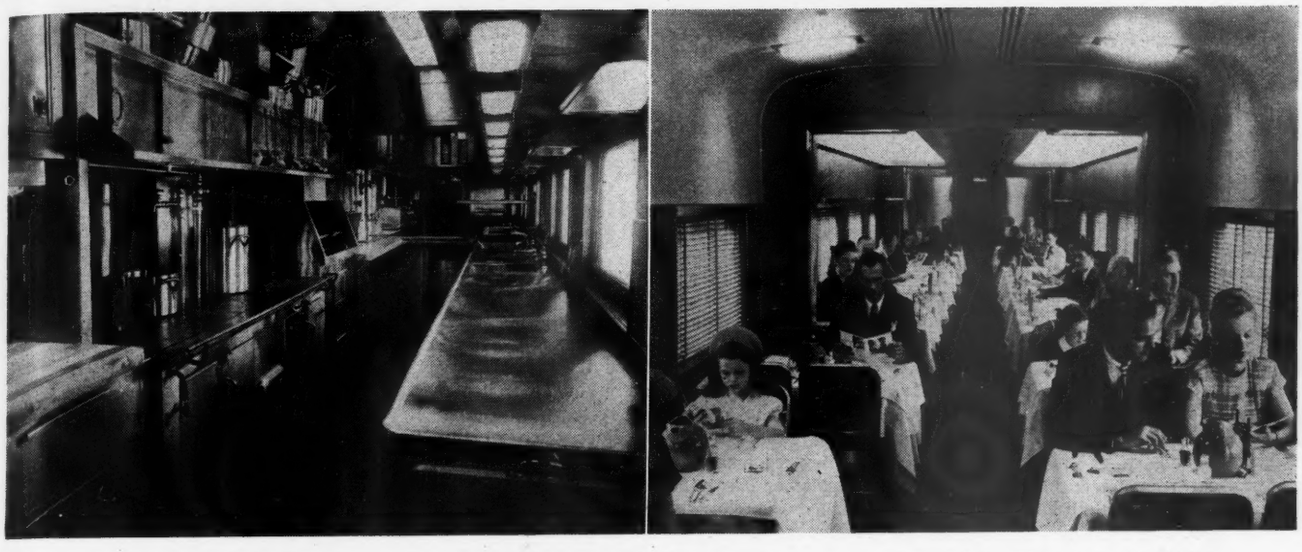
July Truck Traffic

Motor carriers reporting to the American Trucking Associations transported in July 2,522,689 tons of freight, a decrease of 1.3 per cent under the 2,555,645 tons transported in June, but an increase of 9.1 per cent over the 2,312,058 tons hauled in July, 1946. The A. T. A. index figure, based on the 1938-40 monthly tonnage of the reporting carriers, was 190 for July, as compared with 196 for the previous month.

The July figures, according to the A. T. A., are based on comparable reports from 282 truckers in 43 states. Carriers in the Eastern district reported a tonnage decrease of 3.1 per cent below June, but an increase of 6.8 per cent over July, 1946; carriers in the Southern region reported increases of 4.7 per cent, 16.4 per cent, respectively; and carriers in the Western district reported increases of 0.6 per cent and 11.4 per cent, respectively.

New York Central's New Kitchen Car and Diner in Service

A handsomely appointed full-length dining car and an accompanying kitchen-lounge car have been delivered to the New York Central and were placed in the New York-Chicago service this week. Three more similar units of two cars are to be put in regular operation soon. The new streamlined stainless steel equipment was built by the Budd Company, with the interior furnishing and decoration



The kitchen (left) of the new kitchen-lounge car will be manned by a staff of eight. The diner (right) seats 64 persons and has a small lounge section to accommodate up to six persons waiting for tables

under the supervision of Henry Dreyfus.

The diner has four sections and seats 64 people at tables. Two sections each have tables for 22 in the customary arrangements, while a center section has tables for 20 passengers who are seated on permanent upholstered couches. An end section provides seats where six passengers may wait to be seated at tables. An extra-wide electric-eye door facilitates movements and service between the diner and the kitchen in the adjoining kitchen-lounge car.

The kitchen-lounge car has an extra large kitchen, 41 ft. long. It is equipped with complete electro-mechanical refrigeration and all fittings are of stainless steel construction. The lounge section of the car accommodates 21 passengers in 17 lounge chairs and four built-in seats with tables. It is distinctively decorated and furnished with magazine tables.

Col. Johnson Answers "Rip Van Winkle" Ads

(*Continued from page 86*)

ed that "Mr. Young is not very well fortified with information as to what goes on in his own railroad." Noting that Mr. Young's plea was to quit delaying cars by sending them over the long circuitous route and put them all on to the short route, Mr. Gass said he was "rather surprised" at some of the results of a "few checks of short line mileage compared with routes appearing in C. & O. tariff files where the rates are competitive."

In on example, Mr. Gass pointed out that the first class rate from Washington, D. C., to New Orleans, La., is $3.28 per 100 lb., and that the short line mileage—Pennsylvania to Potomac Yards, Va.; Southern to Lynchburg; Norfolk & Western to Bristol; Southern to Birmingham, Ala.; Atlantic Coast Line to Bessemer; and Southern to New Orleans—is 1,113 miles. He said that via the published route of the C. & O., on the same competitive rate, the distance is 1,681 miles, or 51 per cent circuitous based on the short line mileage. The C. & O. movement was described as C. & O. to Cincinnati, Ohio; Baltimore & Ohio to East St. Louis, Ill.; and Illinois Central to New Orleans.

"If he [Mr. Young] is sincere in his advertisement," Mr. Gass commented, "he should take immediate action to cancel all rates on which the C. & O. is the circuitous route and stop soliciting traffic via that route." Mr. Gass also suggested that a study of fourth section applications made by the C. & O. to permit circuity via its line to meet competition might be "productive."

"Transportation is not as simple as this or the Rip Van Winkle advertisements would indicate," Mr. Gass continued. "It must be remembered that circuity of and by itself is not particularly harmful and while it is true that the straight line is still the shortest distance between two points, the practical facts of the matter are that there are several lines between all points in the United States. As an example, the short line distance between New York and Chicago is possible only over one set of rails or combination of rails. However, there are four railroads that serve both New York and Chicago with varying intermediate distances, all of which have some points intermediate to New York and Chicago for which they, the circuitous, are the short lines.

"The trains, circuitous as to New York-Chicago, are justified for this short line service and will be run, and to the extent that they haul New York to Chicago freight over a circuitous route they merely utilize fully the tractive effort of their power and distribute the load which would overburden the short line railroad and furnish competition. This is elemental railroading and is understood by all with a working knowledge of railroad economics."

Colonel Johnson also commented that since there is only one short route between any two points, the rates—in cases where rates are authorized on a competitive basis by the Interstate Commerce Commission—and service over the competitive lines are necessarily equalized with the rates and service over the short route. He said that such an arrangement diffuses traffic over many lines, effects greater utilization of equipment and eliminates congestion both on line and in terminals.

"Prohibiting competing long line railroads from meeting the rates and time competition of short lines would serve only to funnel all the traffic from competitive points and areas on the short line railroad," Colonel Johnson stated. "This would retard utilization of equipment and aggravate congestion both on the line and in terminals of the short line with the consequence that it would slow down transportation rather than accelerate it. During the war, the maximization of the movement of traffic over the rail lines was of prime importance. Consequently, the commission, to avoid the very thing that Mr. Young's proposal would do, appointed an agent at Chicago to reroute traffic over any one of the seven western transcontinental railroads. This practice resulted in keeping each of the seven . . . lines fluid and eliminated line and terminal congestion on any one line. Without this, on many occasions, the transportation plant of the nation would have been paralyzed."

Colonel Johnson recalled that it was found impractical during World War II to force the movement of traffic over short lines, thus eliminating circuitous movements. "However," he continued, "during that period we did eliminate thousands of circuitous routes, which to a great extent were paper routes, but which routes on many occasions were used by shippers for various reasons."

Mr. Young, replying to the O. D. T.'s criticism, quoted what he said was a congressional charge that the I. C. C. was controlled by southern and western railroad interests "to the injury of everyone." He linked the O. D. T. and the I. C. C. through Colonel Johnson's association with both agencies.

"Mr. Johnson defends the roads responsible for the shortage of box cars, roads that operate on time schedules identical to the minute though they vary in distance as much as 425 miles," Mr. Young added. "This is a strange position for Mr. Johnson to take with a member of Congress when Mr. Johnson is also a member of the Interstate Commerce Commission. It is that commission, members of which so long opposed the C. & O. in the establishment of competitive bidding for railroad securities and some members of which publicly and privately poohpoohed C. & O.'s many efforts to improve the lot of the traveler and shipper."

The C. & O. chairman described Mr. Johnson's statement as a "coal smoke screen" and said the O. D. T. director compared "haulers of 'fast' freight with the coal-carrying C. & O., a completely misleading comparison." He asserted that the C. & O. has increased its fleet of all kinds of cars by 25 per cent, while other roads have permitted their fleets to decrease by the same amount. As a result, he declared, shippers of coal who are served by the C. & O. have had an ample supply of cars.

A. C. L. Fined $600

The Interstate Commerce Commission has been advised by the federal district court at Wilmington, N. C., that judgment in the amount of $600 and costs was entered against the Atlantic Coast Line on August 28. The action was a civil suit in seven counts charging the A.C.L. with violating a commission service order prohibiting the use of standard "RS" type refrigerator cars for the transportation of empty beer containers without having first obtained permits.

Representation of Employees

The American Railway Supervisors Association has replaced the Railway Employees' Department, American Federation of Labor, System Federation Nos. 103 and 54, as the representative of mechanical foremen employed by the New York Central and its leased and operated subsidiaries, including the Boston & Albany, Cleveland, Cincinnati, Chicago & St. Louis, Michigan Central and the Toledo & Ohio Central, according to the result of a recent election which has been certified by the National Mediation Board. The vote, in which 1,572 employees were eligible to participate, was 721 to 312, with 170 ballots being cast for "other organizations."

As the result of other elections which also have been certified by the N. M. B., the Brotherhood of Railroad Trainmen has supplanted the Order of Railway Conductors as the representative of road conductors employed by the Pittsburg & Shawmut. Meanwhile, however, the B. of R. T. lost an election on the Minnesota Transfer, where it was succeeded by the Railroad Yardmasters of America as the representative of yardmasters.

Other election results found the Switchmen's Union of North America, by virtue of a 46 to 12 victory over the B. of R. T., retaining its right to represent Buffalo Creek yardmen, including foremen and helpers, and the National Council of Railway Patrolmen's Unions, American Federation of Labor, being named as the representative of Norfolk & Western assistant special agents and special officers. The N. & W. employees formerly were without representation.

I. C. C. Schedules Hearing Date on Signaling Order

Hearings on the petitions filed by seven roads for modification of the Interstate Commerce Commission's order of June 17 in the Docket No. 29543 proceeding, wherein the commission required the carriers to install automatic train-stop or train control systems, cab signal systems or automatic block signals on lines over which high-speed trains are run, has been set for September 29 at the Morrison Hotel, Chicago. Commissioner W. J. Patterson and Examiner E. J. Hoy will preside.

Petitions to be considered at the hearings include those of the Atchison, Topeka & Santa Fe, including the Gulf, Colorado & Santa Fe and Panhandle & Santa Fe; Chicago, Burlington & Quincy; Chicago & North Western; Chicago, St. Paul, Minneapolis & Omaha; Chicago, Rock Island & Pacific; Great Northern; Southern Pacific; Union Pacific; and Western Pacific.

Southern Passenger Fares

Oral argument in the proceeding wherein 25 southern railroads seek Interstate Commerce Commission authority to increase their basic one-way and round-trip passenger fares, and in the proceeding wherein 37 southern roads seek authority to increase their first-class fares, has been assigned for October 2 at Washington, D. C., before the commission. Hearings on the petitions were held in Atlanta, Ga., last month before Commissioner Rogers and Examiner Fuller. The carriers' proposals were outlined in *Railway Age* of July 26, page 97, and previous issues.

Clark Implies RRs Were War Profiteers

(*Continued from page 86*)

than the car-mile revenues derived by the defendants from transportation of minimum carload shipments established in the Consolidated Freight Classification." The complaint also stated that the shipments had favorable transportation characteristics, because the explosives and ammunition were packed and loaded, not only in accordance with I. C. C. regulations, but "in accordance with additional safety procedures, devised, developed and adopted by this complainant in order to reduce the hazards to lives and property."

The refusal of the railroads to meet requests for further voluntary adjustment of the assailed ratings and rates is noted, the complaint saying that such requests were made "throughout the period" which it covers. An appendix compares the rates, weights, revenues and car-mile earnings on 16 "representative shipments" with what they would have been if the proposed 35 and 50 per cent ratings had been in effect.

What Army Wants to Pay—The average billed carload weight of the shipments was shown as 83,748 lb., the average rate as $2.31 per 100 lb., the average revenue per carload as $2,038.76, and the average revenue per car-mile as $1.65. On the basis of the proposed lower ratings, the average rate would have been $1.11 per 100 lb.; the average revenue per carload $1,027.26; and the average revenue per car-mile, 87.5 cents. A footnote explains that the rates shown do not reflect the deductions which were formerly available under land-grant statutes and land-grant equalization agreements.

"Rates for the movement of explosives and ammunition during the war were fixed in the same legal manner as those for other wartime government traffic," A. A. R. President Faricy said in his statement. "At the beginning of the war the government asked the railroads for a single rate on all types of explosives and ammunition which was less than was charged any other shipper for the same service. The railroads willingly granted this request, and the rate fixed was approved and accepted by the War and Navy departments. Moreover, the railroads allowed two stop-overs for all shipments of this important war freight, and did not impose any additional charge for this privilege. Obviously, this added to the railroad's cost of performing this service, as did the special handling and care which these commodities required."

Delay in Mail Pay Proceeding Sought by Post Office

The Post Office Department has advised the Interstate Commerce Commission that it will be unprepared to participate in the resumption of hearings on September 30 in the Docket No. 9200 proceeding, wherein the railroads are seeking an increase of 45 per cent in the rates for handling United States mail. As noted in *Railway Age* of July 19, page 63, the postponement to September 30 was ordered by Commissioner Mitchell following the presentation of evidence by the carriers. The railroads' petition was filed with the commission in February.

The department has asked the commission to direct the parties to appear before it for a pre-hearing conference for the purpose of considering the date at which the hearings are to be resumed and to "enable the parties to explain fully, and to the satisfaction of the commission, the problems which exist in preparation and development of the facts and evidence to be presented to the commission."

According to the department, a congressional appropriation was obtained, effective July 31, for the employment of persons to make studies of railroad exhibits and conduct surveys. Since that time, it added, department officials have been "diligently engaged" in endeavoring to recruit a staff of qualified personnel. The department also told the commission that since the hearings were adjourned in July, department officials have been "busily engaged" in developing evidence pertinent to the issues and endeavoring to verify

and check the evidence submitted by the railroads.

"The issues are so complex, varied and wide in scope that this task is nowhere near completion," it continued. "In addition to the difficulties inherent in the proceedings, department officials have been unable to make certain necessary statistical studies because of the failure of certain of petitioners to have submitted to the department statements of account indicating the extent to which deadhead returns of mail cars are to be charged against the department for portions of the year 1946. Until such statements have been submitted, said studies cannot be made."

Davis, Gurley, Woodruff Named to C. of C. Committee

Three railroad presidents — C. McD. Davis of the Atlantic Coast Line; F. G. Gurley of the Atchison, Topeka & Santa Fe; and R. E. Woodruff of the Erie—have been designated as members of the Transportation and Communication Department Committee of the Chamber of Commerce of the United States. L. O. Head, president of the Railway Express Agency, is also a member, and E. A. Nash, president of Yellow Transit Company, Oklahoma City, Okla., is chairman.

Freight Car Loadings

Loadings of revenue freight for the week ended September 6 totaled 809,050 cars, the Association of American Railroads announced on September 11. This was a decrease of 116,686 cars, or 12.6 per cent from the previous week, an increase of 14,567 cars, or 1.8 per cent over the corresponding week last year, and an increase of 79,196 cars, or 10.9 per cent, above the comparable week in 1945.

It should be noted that the week ended September 6 included the Labor Day weekend.

Loadings of revenue freight for the week ended August 30 totaled 925,732 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, August 30 District	1947	1946	1945
Eastern	164,445	166,046	151,963
Allegheny	195,820	201,221	181,015
Pocahontas	73,436	73,320	60,099
Southern	131,703	134,387	122,773
Northwestern	148,463	135,044	143,856
Central Western	144,709	135,528	137,896
Southwestern	67,156	62,894	62,740
Total Western Districts	360,328	333,466	344,492
Total All Roads	925,732	908,440	860,342
Commodities:			
Grain and grain products	57,439	48,068	66,255
Livestock	12,552	15,230	17,455
Coal	180,091	190,120	179,264
Coke	14,038	14,605	12,411
Forest products	50,301	51,501	45,282
Ore	81,499	65,549	70,959
Merchandise l.c.l.	119,182	123,165	105,114
Miscellaneous	410,630	400,202	363,602
August 30	925,732	908,440	860,342
August 23	900,895	884,955	853,426
August 16	906,305	887,553	652,832
August 9	905,244	899,086	870,002
August 2	921,591	898,391	863,910
Cumulative total, 35 weeks	29,506,154	26,901,153	28,758,342

In Canada.—Car loadings for the week ended August 30 totaled 81,558 cars as compared with 76,607 cars for the previous week and 78,771 cars for the corresponding week last year according to the compilation of the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
August 30, 1947	81,558	35,797
August 31, 1946	78,771	37,031
Cumulative totals for Canada:		
August 30, 1947	2,559,407	1,278,346
August 31, 1946	2,362,239	1,190,823

R. E. A. Gives 15½c-an-hour Increase to 75,000

The Railway Express Agency has agreed to a wage increase of 15½ cents an hour for 75,000 employees represented by the Brotherhood of Railway Clerks, the Brotherhood of Blacksmiths, both American Federation of Labor affiliates, and the Independent International Association of Machinists. The increase, which affects 90 per cent of the Agency's employees, was the same as that granted recently to railroad non-operating employees. It was estimated that the increase will add approximately $30,600,000 a year to the agency's wage bill.

Strike of Union's Operating Men Slows Steel Output

What was described as a "wildcat" strike of employees of the Union Railroad affiliated with the Brotherhood of Railroad Trainmen and the Brotherhood of Locomotive Firemen brought that road's operations to a halt September 5. As a result, plants of the Carnegie-Illinois Steel Corporation in the Pittsburgh, Pa., area, served by the railroad, were forced to curtail operations almost completely, thus substantially reducing the output of steel, especially of types used in the manufacture of automobiles and railroad cars. Other steel producers also were affected by the Carnegie-Illinois shut-down.

The strike was a result of what the union representatives termed a refusal of the railroad, which is a subsidiary of the United States Steel Corporation, as is Carnegie-Illinois, to satisfy their complaints that certain provisions of their working agreements are being violated, but it is understood that these contentions were accompanied by the submission by the unions of additional claims, including a demand for longer vacations, extra pay for men on night shifts, and a big increase in hourly wage rates.

Negotiations with the railroad as to a number of alleged violations of the agreements had been in progress up to the time the strike began, and a conference between the parties had been arranged, following the provisions of the Railway Labor Act, on September 4, but the walkout developed before these discussions had been concluded. National brotherhood leaders were quoted as terming the strike unauthorized, and the National Mediation Board refused to undertake a settlement of the controversy until the men returned to their jobs.

It was stated at the Washington, D. C., headquarters of the National Mediation Board this week that the board had not intervened because the striking employees had not conformed to Railway Labor Act procedures. Meanwhile the board has in Pittsburgh a mediator whom it could assign to the case immediately if the strikers go back to work. At the time of the walkout, the N. M. B. had two mediators assigned to disputes involving other Union employees who are represented by the C. I. O.'s United Steel Workers of America. One such dispute is a representation controversy among maintenance of way employees and the other involves wage and rules demands of shopmen. In the latter case the C. I. O. union has set September 26 as the date for a strike.

In commenting on the strike, C. R. Cox, president of Carnegie-Illinois, said last week: "The company has been forced to shut down all of its basic operations . . . except such minor operations as are required to prevent irreparable loss. This shutdown will result in a daily loss in production of 21,000 tons of steel ingots, 15,000 tons of blast furnace pig iron, and, consequently, approximately 16.000 tons of finished steel products. To visualize better what this daily loss in steel production means, the 16,000 tons of finished steel is the equivalent of that required for the manufacture of more than 8,000 automobiles."

A list of current publications appears on page 104.

Car Service

I. C. C. Service Order 769, effective from September 15 until April 15, 1948, unless otherwise modified, requires that cars forwarded to stop off to complete loading must contain freight amounting to not less than 15 per cent of the marked capacity of the car when forwarded from the point of origin. The order provides for permits issued by the director of the commission's Bureau of Service.

The Office of Defense Transportation has issued General Permit ODT 18A, Revised-20A, effective September 10, authorizing the shipping of cranberries when: (a) such freight is packed in any type of container and the quantity loaded in each car is not less than 30,000 lbs.; and (b) the origin point of any such freight is in Massachusetts or New Jersey and the destination is in any state or the District of Columbia, except in Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, or Vermont, or except any point or place in Canada; or (c) the origin is in Wisconsin and the destination point is any place west of a line consisting of the eastern boundary of Minnesota and the Mississippi river south to New Orleans, La., and the quantity of such freight loaded in a refrigerator car is not les than 30,000 lb.

The permit will expire December 31.

Equipment and Supplies

LOCOMOTIVES

The ERIE has ordered 10 1,000-hp. and 1 660-hp. Diesel-electric switching locomotives, at an estimated cost of $1,050,000. Five of the larger engines will be built by the American Locomotive Company and 5 by the Electro-Motive Division of the General Motors Corporation. Electro-Motive also will build the smaller locomotive. An inquiry for this equipment was reported in last week's *Railway Age*.

FREIGHT CARS

Freight Cars Built in August Totaled 5,963

Freight cars for domestic use produced during August amounted to 5,963, including 1,617 built in company shops, compared with the July total of 5,879 freight cars, including 1,033 built in company shops, the American Railway Car Institute has announced. Freight cars ordered in August for domestic use totaled 2,376, all of which were ordered from car builders, compared with July orders for 14,865, including 2,025 ordered from company shops. The backlog of cars on order and undelivered on September 1 was 113,780, including 28,432 on order from company shops. In announcing these figures, S. M. Felton, president of the institute, warned that prolongation of the rail strike which is crippling production at the Carnegie-Illinois Steel Corporation may seriously affect freight car production in the coming months. Carnegie-Illinois is one of the principal suppliers of steel for freight cars.

SIGNALING

The MISSOURI-KANSAS-TEXAS has placed an order with the Union Switch & Signal Co. covering the materials for the installation of absolute permissive block signaling on its single-track line from San Marcos, Tex., 40 mi. south to mile post 1027. The materials involve Style H-5 searchlight signals, DN-11 relays, housings, Type U-5 switch circuit controllers, transformers and rectifiers. The field installation will be carried out by railroad forces.

The SOUTHERN has ordered equipment from the General Railway Signal Company for the installation of an all-relay electric interlocking system to replace the present electric interlocking at Chattanooga, Tenn. The control machine will have a 26-in. by 72-in. panel equipped with an illuminated track diagram, movable-point switch indicators, 51 track-occupancy indication lights, and 97 levers for the control of 50 switch machines and 63 signals. Materials ordered include Type MD dwarf signals, Type SA searchlight signals, Type K relays and Type B plug-in relays.

The ST. LOUIS-SAN FRANCISCO has placed an order with the Union Switch & Signal Co. covering the necessary signal materials for the installation of centralized traffic control between Afton, Okla., and East Tulsa, 73 mi. A 7-ft. 6-in. style C control machine for handling the entire section will be located at Tulsa. The order also includes the necessary code equipment, Style H-2 searchlight signals, Style M-22-A dual-control electric switch movements, SL-6A electric switch locks, relays, rectifiers and transformers. The field installation will be handled by railroad forces. The project will cost $700,000. When construction now under way is completed between Marshfield, Mo., and Springfield, the road will have approximately 197 mi. of continuous C. T. C. operation.

Supply Trade

The headquarters offices of the Alco Products division of the **American Locomotive Company** have been transferred from New York to Dunkirk, N. Y. **Hugh M. Corrough,** director of the division, will direct all sales, engineering and manufacturing from the Alco plant in Dunkirk.

The **Interchemical Corporation** has announced the establishment of a New England sales branch for the company's industrial finishes with offices located at 10 North Main street, West Hartford, Conn. The new branch will be under the direction of **Robert K. Hungerford.**

The Hewitt rubber division of **Hewitt-Robins, Inc.,** has announced the appointment of the **McJunkin Supply Company,** Charleston, W. Va., as a distributor of the entire Hewitt line of industrial hose, belting and packing.

The **Mobilift Corporation,** formerly known as the General Equipment Company, has announced the opening of a new San Francisco, Cal., office, with **R. M. Lewis** as manager. **T. H. Skeel** has been appointed manager of the firm's Atlanta, Ga., office to succeed **E. J. Sell.**

Carl Geis and **T. E. McDowell** have been elected vice-presidents of the **Pyle-National Company,** with the former placed in charge of sales and the latter in charge of engineering.

I. F. Sharp has been appointed district representative in charge of sales and service for the **Superheater Company,** with headquarters at Chicago.

Harry G. Campbell has been appointed sales manager of the Dieselight division of the **Buda Company,** Harvey, Ill. Mr. Campbell previously served for fifteen years with the Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa., in the sale and manufacture of generator sets, and for five years as a manufacturer's representative handling the sale of generator sets in the states of Illinois, Kentucky and Arkansas.

H. H. Talboys, division manager, railway equipment, **R. W. Bayerlein,** division manager, heavy machinery, and **D. A. Cheyette,** division manager, crusher division, all of the **Nordberg Manufacturing Company,** Milwaukee, Wis., have been promoted to vice-presidencies. A photograph of Mr. Talboys and a sketch of his career appeared in *Railway Age* of June 28.

Mr. Bayerlein joined Nordberg in 1919, when he became an apprentice in the Nordberg shops as a co-op engineering student of Marquette University. Since receiving his degree in mechanical engineering in 1924, Mr. Bayerlein has served as sales engineer on estimating, power plant analysis and the formulation of proposal specifications for steam and Diesel engines. In 1933 he was appointed assistant to the vice-president in charge of sales and engineering, heavy machinery division, and two years later he was advanced to manager of that division.

Mr. Cheyette, a native of New York state, interrupted his college education during World War I to join the Army Air Corps. After serving ten years with the Kennedy-Van Saun Manufacturing & Engineering Corp., including several years of design and construction work in Mexico, he resigned in 1928 as eastern sales manager, and joined the Traylor Engineering & Manufacturing Co. as assistant district manager of the New York office. Later he served as manager of the midwestern territory, with headquarters at Chicago. In 1937 Mr. Cheyette joined Nordberg, and in 1944 became sales manager of the crusher division. He was instrumental in the formation of the process machinery division in 1944, and served as sales manager of that division from its inception.

OBITUARY

P. A. Wells, Jr., assistant chief engineer and secretary and treasurer of the Maintenance Equipment Company, Chicago, died at Bryan, Ohio, on September 2 as the result of a heart attack.

Abandonments

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—Examiner J. K. Lyle has recommended in a proposed report that Division 4 of the Interstate Commerce Commission authorize this road to abandon, subject to the usual employee-protection conditions, a 13.6-mile portion of a branch from Reno, Minn., to a point near Caledonia. According to the report, a June 16 cloudburst and subsequent flood completely removed from the subgrade approximately 3 miles of the line and damaged in addition thereto 9,090 ft. of track to the extent that it will require realignment. Of the 34 bridges between Reno and Caledonia, 21 were damaged in varying degrees. The applicant estimated that it would cost a minimum of $127,931 to restore the line.

GREAT NORTHERN.—This road has applied to the Interstate Commerce Commission for authority to abandon a 12.6-mile branch line between Gerber, Mont., and Giffen.

News Department continued on next left-hand page.

Give it a run . . .

for your money!

" . . . There is no inherent reason why a good steam locomotive cannot run long distances virtually every day of the month without being taken out of service or held up in the enginehouse while awaiting its turn for repairs.

"Of utmost importance in the attainment of high mileage for any type of power is keeping it on the road. A locomotive sitting in an enginehouse makes no mileage. It is only common sense to give priority routing to the best locomotives to enable them to do the greatest possible share of train hauling. New locomotives should not be made to wait their turn for entrance into the enginehouse or for repair work to be done upon them after they are in.

"The assignment of manpower is likewise important. With a given amount of repair work to be performed, the more men that can be assigned to a locomotive, the fewer the required hours will be to complete the job. By assigning a sizeable number of men to the latest power, the modern locomotive will be dispatched quickly and enabled to perform additional revenue service, without adding to the total number or cost of the servicing man hours. Whether this penalizes second-class power or not, by delaying their turn for work to be done, is not of primary importance. The important consideration is that almost without exception modern power will do a given job better and cheaper than older power, and therefore every step taken to increase their share of the total traffic moved is a step toward greater economy of operation."

Reprinted from
Railway Mechanical Engineer
July, 1947

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED **INCORPORATED, LIMA, OHIO**

NORTHERN PACIFIC.—This road has reapplied to the Interstate Commerce Commission for authority to abandon a branch extending approximately 20.6 miles from Wyoming, Minn., to Taylors Falls. The commission, in January, 1944, denied, without prejudice, a similar application, advising the road to renew its request upon termination of the war.

SOUTHERN.—Division 4 of the Interstate Commerce Commission has authorized this company to abandon operation over 3,870 ft. of track owned by the Illinois Central in Louisville, Ky. The trackage, known as the "Short Route Railway Transfer," enabled the Southern to enter the I.C.'s Louisville passenger terminal, but the former now plans to consolidate its passenger station operations in Louisville at its own station, to which "extensive improvements" will be made.

Construction

CENTRAL OF NEW JERSEY.—This road has awarded a contract to the William L. Blanchard Company for constructing Diesel-electric locomotive servicing facilities in Jersey City, N. J., at an estimated cost of $140,000.

MISSOURI PACIFIC.—The $5,217,392 which this road will spend during 1948 for new track (announced in *Railway Age* of August 30) will include the laying of 60.4 mi. of 132-lb. rail and 209 mi. of 115-lb. rail on the company's Southern and Western divisions and on its Texas lines. This new track will replace rail of 90-lb., 110-lb. and 115-lb. weight, some of which has been in service nearly 20 years. The 132-lb. rail will replace lighter track on 30 mi. of line between Poplar Bluff, Mo., and Texarkana, Ark., and 30.4 mi. of track on the Illinois division between Dupo, Ill., and Thebes. The 115-lb. rail will be laid as follows: 10.4 mi. between McCrory, Ark., and Fair Oaks; 10 mi. between Simms, La., and Tioga-Texmo Junction; 15 mi. between Glenmora, La., and Oakdale; 18.5 mi. in vicinity of Eureka, Mo., and between Elm Park, Mo., and Rock Creek; 57.4 mi. between Scott City, Mo., and Selkirk and between Diston, Colo., and Amidon; 5.3 mi. in the vicinity of Garnett, Kan.; 10 mi. near Braggs, Okla.; 31 mi. between Vanderbilt, Tex., and Buckeye; 9 mi. between Vidauri, Tex., and Inari; 12 mi. near Longview, Tex.; 14 mi. between Trinity, Tex., and Dodge; and 14 mi. between Bracken, Tex., and Monte Vista.

NEW YORK CENTRAL.—Division 4 of the Interstate Commerce Commission has authorized this road to construct a 14-mile branch line in Nicholas county, W. Va. The line would extend from a connection with the Nicholas, Fayette & Greenbrier (of which the N. Y. C. and the Chesapeake & Ohio are joint lessees) at the confluence of Peters creek and the Gauley river, thence northeasterly up the valley of Peters creek and thence southerly up Rockcamp Branch of Peters creek. According to the commission's report, mining operations are to begin in the territory to be served by the new line immediately upon completion. Cost of constructing the line is estimated by the applicant at $2,200,000.

READING.—This road has awarded the following contracts, the estimated costs of which are shown in parentheses: To Mayer Pollock, Pottstown, Pa., for removing an elevated station building on Girard avenue, Philadelphia ($25,000); to Luria Brothers & Co., Philadelphia, for removing a bridge over the Schuylkill river at Reading, Pa. ($50,000); to the Haverstick-Borthwick Company, Philadelphia, for renewing the roof of a thaw house at Port Richmond, Philadelphia ($32,000); and to the L. A. Hauser Company, Philadelphia, for removing and replacing a trainshed roof in the Reading Terminal, Philadelphia ($200,000).

SOUTHEASTERN.—Additional information pertaining to the proposed construction by this company of a 229-mile line between Savannah, Ga., and Atlanta is included in the usual "return to questionnaire," which the applicant has now filed with the Interstate Commerce Commission. The company's application was outlined in *Railway Age* of July 12, page 94, while the views of intervening carriers in the proceeding were reported in the issue of August 2, page 61.

The applicant, of which E. T. Mitchell is president, chairman of the board and general manager, stated that it will furnish adequate transportation to the general public at "cheaper rates" than are now available. It said that the lower rates would result because the proposed line would be a "quicker and shorter" route than any now in existence between Savannah and Atlanta, adding that the railroads now serving that territory are rendering "very poor" service, particularly at intermediate points.

The Southeastern's plan is to start constructing the line at Atlanta in January and build in a southeasterly direction to Savannah, with the entire line to be opened "sometime in the fall of 1951." It said that agreements with respect to interchange of traffic, division of rates and trackage rights with other carriers can be "easily worked out . . . when the proper time comes."

The return also said that the applicant has not been granted nor does it expect to receive any government aid. It added that "several people" have offered to give the proposed road right-of-way; "many others" will sell it land at "low cost." The construction would be financed by the issue of 200,000 shares of non-assessable common stock, at $50 per share, with the first issue to total $500,000. No preferred stock or bonds would be issued.

The return estimated gross annual revenues at approximately $15,000,000 after the first five years of operation. It said that approximately 75 per cent of the business would be diverted from other roads with the remainder coming from newly-created industries. Among other things, the applicant further noted that, with the exception of Brooklet, Ga., all other communities through which the proposed line would pass are now served by a railroad.

VIRGINIAN.—This road has applied to the Interstate Commerce Commission for authority to construct and operate a 4.25-mile extension to its so-called Winding Gulf branch from a point near Whitby, W. Va., and a 2-mile extension to its so-called Allen Creek branch from a point near Wyco.

Organizations

W. G. Vollmer, president of the Texas & Pacific, will address the **Southeast Shippers Advisory Board** at its 79th regular meeting to be held on September 17 and 18, at the Ansley Hotel in Atlanta, Ga.

The **Trans-Missouri-Kansas Shippers Board** will hold its 77th regular meeting on September 17, at the Hotel Jefferson in St. Louis, Mo. Donald V. Fraser, president of the Missouri-Kansas-Texas, will address the luncheon meeting on Financially Sound Railroads—the Bulwark of Free Enterprise.

A meeting of the **Northwest Locomotive Association** will be held on September 15, at 8 p.m. at Woodruff Hall, St. Paul, Minn.

The **Car Foremen's Association of Omaha** (Neb.) will meet September 18 at the Railroad Y. M. C. A. building, Council Bluffs, Iowa, at 6:30 p.m.

The **Pacific Coast Transportation Advisory Board** will hold its 74th regular meeting in Oakland, Cal., on September 18 and 19, at the Leamington hotel. M. A. Clevenger, executive vice-president of the Canners League of California will address the board's luncheon session. The rest of the program will be devoted to committee reports and a report on the national transportation conditions by E. W. Coughlin, assistant to chairman, Car Service Division, Association of American Railroads.

The **Great Lakes Regional Advisory Board** will hold its 67th regular meeting at the Hotel Statler, Detroit, Mich., September 24-25. Governor Sigler of Michigan will be the speaker at the luncheon meeting.

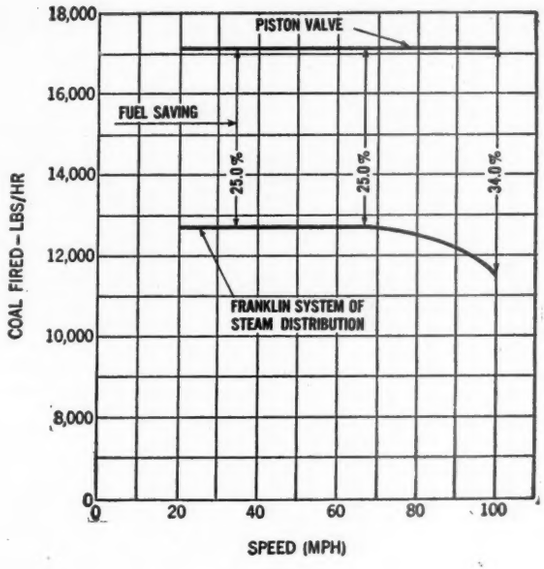
The next meeting of the **Pacific Railway Club** has been scheduled for October 9, at 7:30 p.m., at the Biltmore hotel, Los Angeles, Cal. Walter B. Hester, production manager of the National Lead Company, will talk on the Transportation of Metallic and Non-Metallic Ores. Other speakers will be B. F. Wells, assistant general manager of the Union Pacific, and T. O. Evans, mining engineer of the Atchison, Topeka & Santa Fe.

The **Allegheny Regional Advisory Board** will meet on September 24 and 25 in Canton, Ohio. Committee sessions will be held on the first day of hte meeting at the Shady Hollow Country Club, with the general session on the following day at the Onesto hotel.

News Department continued on next left-hand page.

LESS FUEL

This curve shows a comparison of fuel consumption by a modern locomotive when equipped with piston valves and when equipped with the Franklin System of Steam Distribution. In both cases horsepower at rear of tender is the same. It is the drawbar horsepower developed by the piston-valve locomotive with steam consumption of 90,000 lbs. per hour.



Computations based on:

Type 4-8-4

Cylinders 25" x 32"

Driving Wheels 80"

Boiler Pressure 300 lb

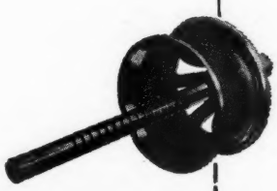
Steam Temperature 730° F

Total Heating Surface 4225 sq ft

Grate Area 100.2 sq ft

used by a locomotive equipped with the Franklin System of Steam Distribution

This curve shows the savings in fuel consumption that may be expected from a modern locomotive when it is equipped with the Franklin System of Steam Distribution.



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO • MONTREAL

STEAM DISTRIBUTION SYSTEM • BOOSTER • RADIAL BUFFER • COMPENSATOR AND SNUBBER • POWER REVERSE GEARS
AUTOMATIC FIRE DOORS • DRIVING BOX LUBRICATORS • STEAM GRATE SHAKERS • FLEXIBLE JOINTS • CAR CONNECTION

Financial

CANADIAN PACIFIC. — *Dividend.* — This road has declared a dividend of 50 cents a share on the ordinary stock, payable in Canadian funds on November 1 to stockholders of record on September 22. W. M. Neal, chairman and president, said the dividend was possible solely because of income derived from sources other than railroad operation. Although gross earnings from freight and passenger traffic had shown an increase over 1946, he added, the higher wage rates and prices of materials and supplies had resulted in a lower net railroad income.

CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA.—*Equipment Trust Certificates.*— This company has sold $1,560,000 of equipment trust certificates to the First National Bank, Chicago, on a bid of 98.57 for a 1¾ per cent coupon, representing a net interest cost to the road of about 2.03 per cent. (See *Railway Age* of August 9, page 257.)

CHICAGO GREAT WESTERN.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to re-issue and pledge $437,000 of its Series A first mortgage 4 per cent bonds, due January 1, 1988, and $548,000 of its general income mortgage 4½ per cent bonds, due January 1, 2038, all of which are now held in the applicant's treasury. The applicant proposes to borrow from banks an amount not in excess of 75 per cent of the market value of the bonds, which would be pledged as security. Proceeds of the loan would be used to partially reimburse the Reconstruction Finance Corporation, to which the C. G. W. owes $5,600,000.

CHESAPEAKE & OHIO.—*Distribution of Nickel Plate Stock.*—Division 4 of the Interstate Commerce Commission has dismissed, for want of jurisdiction, the application of this road and the Alleghany Corporation for approval of the plan whereby the former will distribute its holdings of 192,400 shares of New York, Chicago & St. Louis common stock as a dividend. Alleghany, as a C. & O. stockholder, will receive 12,905.85 shares of the Nickel Plate stock; and, in that connection, the commission's report stipulated that unless Alleghany sells or otherwise disposes of such shares within 30 days, it must deposit them with the Chase National Bank of New York as independent voting trustee under the trusteeship created pursuant to the commission's June, 1945, decision, approving Alleghany's control of C. & O.

DENVER & RIO GRANDE WESTERN.—*Equipment Trust Certificates.*—This company has applied to the Interstate Commerce Commission for authority to assume liability for $2,220,000 of Series L equipment trust certificates, the proceeds of which will be applied toward the acquisition of equipment estimated to cost $2,963,365. The equipment includes 3 1,500-hp. Diesel-electric switching locomotives, at $125,692 each, and 4 1,000-hp. Diesel-electric switching locomotives, at $90,174 each, from Fairbanks, Morse & Co.; and 500 50-ton, all-steel gondola cars, at $4,451 each, from the Pressed Steel Car Company. The certificates would be dated November 1 and sold on the basis of competitive bidding. They would be payable serially in 30 equal semi-annual installments of $74,000 each.

LEHIGH VALLEY. — *Atkinson Directorship.*—Assistant Director C. E. Boles of the Interstate Commerce Commission's Bureau of Finance has recommended in a proposed report that the commission deny the application of the Wabash's president, Arthur K. Atkinson, for authority to serve also as a director of the Lehigh Valley. Although Mr. Boles reported that there was "no objection" to the application, he found a basis for his adverse recommendation in actions and pronouncements of the commission in previous directorship proceedings.

The latter included the *Coverdale* case, 244 I. C. C. 567,252 I. C. C. 672, wherein the original report expressed the commission's view that "the public interest would be served in the greatest measure if complete independence and impartiality could be secured and maintained between systems generally, although directly serving different territories." Also cited in the proposed report was the decision in the *Boatner* case, 257 I. C. C. 369, where the commission spoke again in like manner, saying also that because of the foregoing considerations, and the "possibility of competition and conflict of interests," a person "should not be permitted to serve as an officer or director of more than one such railroad system, except in special circumstances."

As the proposed report pointed out, the Wabash is owner of 21 per cent of the Lehigh's voting stock which, like the Pennsylvania's 30 per cent interest, has been trusteed pursuant to conditions attached to the commission's April 28, 1942, order authorizing the P. R. R. and its subsidiary, the Pennsylvania Company, to acquire control of Wabash. This "substantial stock interest" of the Wabash in the Lehigh was stressed in arguments supporting Mr. Atkinson's application. It was argued also that no consolidation involving the Lehigh is either pending or contemplated and that the authority sought would be limited to the duration of the voting trust which would meanwhile assure the independence of the Lehigh.

In finding such arguments inadequate support for the application, Mr. Boles, among other things, had this to say: "While the applicant might not, as a director of the Lehigh Valley, be called upon to consider proposals for its consolidation with the Wabash or other transactions involving the two companies and requiring the commission's approval under section 5(2), he has no assurance that he will not be asked to consider such proposals or to take part in their disposition. Nor has he any assurance that he will not be called upon to make decisions in matters in which the interests of the Wabash and the interests of the Lehigh Valley may be in conflict. When that time comes he should not be sitting 'on both sides of the table.'"

Nor would Mr. Boles agree that a favorable precedent had been established by the commission-approved service of former Wabash receivers as directors of Lehigh. "The authority granted each receiver," the proposed report said, "was limited to the time that he should continue as receiver or until the further order of the commission. That the receivership of the Wabash was regarded as a special circumstance warranting representation on the board of directors of the Lehigh Valley is evidenced by this limitation and by the refusal of the [commission's] division [4] to authorize [Walter S.] Franklin to continue as a director of the Lehigh Valley after his resignation as receiver."

This reasoning, however, required a footnote which undertook to reconcile it with the fact that Norman B. Pitcairn, who succeeded Mr. Franklin, was authorized, after the termination of the Wabash receivership, to hold the position of director of the reorganized company "in addition to positions he had heretofore been authorized to hold." Mr. Pitcairn construed this as authority to continue as a director of the Lehigh and thus remained in that position until his resignation on May 28, 1947. Mr. Boles' comment on that situation was as follows: "It seems clear from the record upon the application of each receiver and from the record in this proceeding that it was the intention of division 4 to limit the authority to the time the receiver should continue to act as such, and that the phrase 'or until further order of the commission' was inserted merely to give the commission control over the situation during that time."

MISSOURI PACIFIC.—*Bonds of Subsidiary.* —Division 4 of the Interstate Commerce Commission has authorized this road to extend the maturity date of not exceeding $500,000 of first mortgage bonds of the Iron Mountain of Memphis from August 1 to January 31, 1965. See *Railway Age* of August 2, page 62.

NEW YORK, NEW HAVEN & HARTFORD. —*Bonds of Providence & Worcester.*— This road's lessor, the Providence & Worcester, has applied to the Interstate Commerce Commission for authority to issue and sell $1,500,000 principal amount of Series A first mortgage bonds, the proceeds of which will be applied toward the retirement of a like amount of first mortgage 4 per cent bonds, due October 1. The new issue would be dated October 1 and would be due October 1, 1967, with the rate of interest to be determined by competitive bidding.

ST. LOUIS-SAN FRANCISCO.—*Annual Report.*—Operating revenues of this road last year totaled $96,657,711, compared with $116,844,777 in 1945. Operating expenses amounted to $84,741,533, compared with $86,219,235. Fixed charges were $11,713,873, compared with $11,806,457. Net income was $2,614,127, compared with $1,659,411. Current assets at the end of the year were $59,618,359, compared with $62,815,560. Current liabilities were $23,100,916, compared with $25,796,455. Long term debt was $269,119,202, compared with $264,995,327.

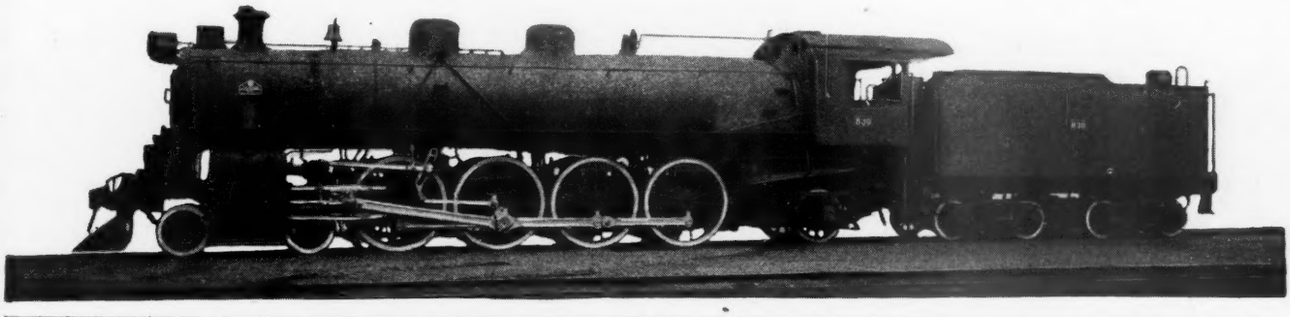
SOUTH GEORGIA. — *Control.* — Division 4 of the Interstate Commerce Commission

News Department continued on next left-hand page.

NEW CHILEAN 4-8-2 LOCOMOTIVES

EACH HAVE FOUR

Security Circulators



Photograph through courtesy of Baldwin Locomotive Works

These 4-8-2 coal-burning locomotives recently built for the Chilean State Railways, and designed for both passenger and freight service, are equipped with Security Circulators.

That Security Circulators are being incorporated in locomotives built for operation in many foreign countries, as well as the United States, is because of the widespread recognition of the improvement in steaming qualities and availability that is secured by their use.

AMERICAN ARCH COMPANY, INC.

NEW YORK • CHICAGO

SECURITY CIRCULATOR DIVISION

has authorized Brooks-Scanlon, Inc., to acquire control of this road through stock ownership. The applicant intends to purchase the 900 shares of outstanding preferred stock and 4,870 shares of common stock, $100 par value, for approximately $93,000. It already controls the Live Oak, Perry & Gulf.

Dividends Declared

Canadian Pacific.—50¢, payable November 1 to holders of record September 22.

Southern.—M. & O. Stk., $2.00, semi-annually, payable October 1 to holders of record September 15.

United New Jersey & Canal.—$2.50 quarterly payable October 10 to holders of record September 20.

Average Prices Stocks and Bonds

	Sept. 9	Last week	Last year
Average price of 20 representative railway stocks..	47.98	49.14	49.08
Average price of 20 representative railway bonds..	88.86	89.63	90.96

Railway Officers

FINANCIAL, LEGAL AND ACCOUNTING

B. A. Corkran has been appointed assistant auditor of revenues of the Chesapeake & Ohio, with headquarters at Richmond, Va., succeeding **R. W. Woody,** whose appointment as revenue assistant at Cleveland, Ohio, was reported in *Railway Age* of August 23.

Judson C. McLester, Jr., of the New York law firm of Davis, Polk, Wardwell, Sunderland and Kiendl, has been appointed to the newly-created position of chief law officer of the Central of New Jersey at New York, effective September 15. Mr. McLester will take the place of the late **Howard L. Kern,** general counsel, whose death was reported in *Railway Age* of May 24, page 1103.

Leo Jessen, freight claim agent of the Atchison, Topeka & Santa Fe at Los Angeles, Cal., has retired.

John W. Murphy, assistant general solicitor of the St. Louis Southwestern, at St. Louis, Mo., has been appointed general solicitor, with the same headquarters.

OPERATING

F. B. Robins, assistant to general manager of the Atlantic Coast Line, with headquarters at Wilmington, N. C., has been appointed superintendent of the Wilmington district, with the same headquarters.

M. R. Black has been appointed superintendent of the Montgomery, New Orleans and Pensacola division of the Louisville & Nashville, with headquarters at Mobile, Ala., succeeding **D. E. Beatty,** who has retired after more than 46 years of service.

B. G. Cross, who has been on leave of absence, has resumed his duties as superintendent, Minnesota division, of the Minneapolis, St. Paul & Sault Ste. Marie, with headquarters at Enderlin, N. D., replacing **E. A. Hamerski,** acting superintendent, who has been transferred to the Winnipeg division, in the some capacity, with headquarters at Thief River Falls, Minn., where he relieves **P. Bryant,** superintendent, who has been granted a leave of absence.

D. A. Fawcett, whose appointment as general manager of the Big Four district of the New York Central system, with headquarters at Cincinnati, Ohio, was reported in *Railway Age* of August 23, was born at Rushsylvania, Ohio, on December 2, 1892, and received his higher education at Ohio University, Athens, Ohio. He entered the service of the Cleveland, Cincinnati, Chicago & St. Louis (now part of the N. Y. C. system) in 1908, and served in various capacities in the operating department at Terre Haute, Ind., Indianapolis, and Springfield, Ohio, until June 1, 1939, when he became assistant superintendent at Springfield. On January 1, 1943, he was appointed superintendent at Springfield, and a year later he was named assistant to the general manager at Cincinnati. Mr. Fawcett was promoted to assistant general manager at Indianapolis on September 1, 1945, and on August 1, 1946, he was advanced to manager of freight transportation, with headquarters at New York, the position he held at the time of his recent promotion.

D. A. Fawcett

J. R. Foreaker, trainmaster of the Elgin, Joliet & Eastern, at Gary, Ind., has been appointed assistant to the general manager, with the same headquarters, a newly created position.

C. W. Graves has been appointed trainmaster of the Joplin division of the Missouri Pacific, with headquarters at Nevada, Mo., succeeding **W. A. Catlett,** who has been transferred to the River, Lexington & Marshall subdivisions, with headquarters at Jefferson City, Mo., where he replaces **C. E. Wood,** who has been transferred to the Sedalia subdivision, with headquarters at Jefferson City.

Charles J. Lederer, assistant to vice-president, traffic department, Railway Express Agency at New York, has been appointed to the newly-created post of general manager, transportation, at New York.

Henry H. Kalloch, superintendent of the Eastern New York division of the Railway Express Agency, with headquarters at Albany, N. Y., has been appointed superintendent of organization, with headquarters at New York, succeeding **J. P. Downey,** who has been named assistant general manager. **Walter W. Carpenter,** district manager of public relations at Philadelphia, Pa., has been appointed safety director for the Eastern departments, with headquarters at New York, succeeding **M. S. Cogan,** who has been appointed assistant to general manager. **Laurence J. Donnelly,** assistant superintendent at New Haven, Conn., has been appointed superintendent of the Western New York division at Rochester, N. Y., succeeding **C. L. Nies,** retired. **Ralph B. Ferris,** chief clerk to the general manager at Boston, Mass., has been appointed superintendent at Albany, succeeding Mr. Kalloch. **B. J. Crosby,** who has been attached to the president's staff at New York, has been appointed assistant superintendent of the Southern-New England division at New Haven, succeeding Mr. Donnelly. **J. F. Raap,** assistant to general manager, has been appointed acting superintendent, Terminal division, at New York, succeeding **J. J. McDermott,** who is now on special assignment in the office of the vice-president, Eastern departments, at New York.

T. E. Gilhooley has been appointed assistant to general manager of the Atlantic Coast Line, with headquarters at Wilmington, N. C.

A. L. Enborg has been appointed superintendent of the Toronto Terminals, with headquarters at Toronto, Ont., succeeding **A. M. Hand,** whose appointment as assistant to the vice-president of the eastern region of the Canadian Pacific at Toronto, was reported in the *Railway Age* of August 30.

W. S. Hall, whose retirement as assistant general manager of the Canadian Pacific, with headquarters at Vancouver, B. C., was reported in *Railway Age* of September 6, was born at Montreal, Que., on May 23, 1884, and after a short period of service on another road, entered the service of the C.P. in 1903 as a clerk in the office of the general superintendent at Calgary, Alta. He served in various clerical and secretarial capacities until 1910, when he became yardmaster at Cranbrook, B. C. In 1914 Mr. Hall was appointed trainmaster and served in that capacity at various points until 1920, when he was promoted to superintendent, in which capacity he served at Cranbrook, Winnipeg, Man., and Brandon. He became general superintendent at Moose Jaw, Sask., in 1933, and was transferred to Winnipeg in 1938 and to Calgary in May, 1944. On January 1, 1946, he was advanced to assistant general manager at Vancouver, the position he held at the time of his retirement.

Superheaters

Superheater Pyrometers

Exhaust Steam Injectors

Feedwater Heaters

Steam Dryers

Steam Generators

Oil Separators

American Throttles

THE
SUPERHEATER
COMPANY

Representative of AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK
122 S. Michigan Ave., CHICAGO
Montreal, Canada, THE SUPERHEATER COMPANY, LTD.

A-1885 (2740)

TRAFFIC

V. A. Gardner has been appointed general agent of the Norfolk & Western, with headquarters at Kansas City, Mo.

Charles T. Love has been appointed division freight agent of the Nashville, Chattanooga & St. Louis, with headquarters at Atlanta, Ga., succeeding **T. M. Wilson,** who has retired after 47 years of service.

E. P. Kinney has been appointed division freight agent of the Norfolk & Western at Bluefield, W. Va.

Howard F. Zimmerman, general agent of the Universal Carloading & Distributing Co., at Chicago, has been appointed supervisor of merchandise service of the Chicago,

Howard F. Zimmerman

Indianapolis & Louisville, with headquarters at LaFayette, Ind., a newly created position. Mr. Zimmerman was born at Chicago on April 30, 1899, and following a high school and business college education he entered the service of the Baltimore & Ohio as secretary to the general freight-house foreman in 1916. In 1919, subsequent to service in the Navy during World War I, he was appointed chief clerk to the general dairy agent of the B. & O. He was advanced to traveling freight agent in Iowa in 1922, and later the same year joined Universal Car Loading as traffic agent. He was promoted to assistant manager of the dairy division in 1925 and to manager of that division in 1930. Mr. Zimmerman was appointed general agent in 1944, which position he held until his recent appointment on the Monon. In his new position he will be responsible for the development of improved methods for the handling of merchandise traffic at transfer points and stations through increased mechanization and for the development of a coordinated rail-highway transport service for speeding the movement of l.c.l. freight.

H. L. Zeber has been appointed general agent of the Virginian, with headquarters at Pittsburgh, Pa., succeeding **W. R. McClelland,** who has been transferred to Roanoke, Va., to succeed **W. P. Ayers,** deceased.

A. E. Jackson, city passenger agent of the Louisville & Nashville at New Orleans, La., has been appointed district passenger agent, with the same headquarters, succeeding **Clark Dunn,** whose promotion to division passenger agent at Atlanta, Ga., was reported in *Railway Age* of September 6.

ENGINEERING & SIGNALING

E. A. Humphreys, assistant division engineer of the Cleveland, Cincinnati, Chicago & St. Louis (part of the New York Central system) at Springfield, Ohio, has been appointed division engineer of the Illinois division, with headquarters at Mattoon, Ill., succeeding **C. V. Talley,** who has been transferred to the Ohio division, with headquarters at Springfield.

MECHANICAL

Paul C. Dunn, whose appointment as assistant general superintendent of motive power of the Boston & Maine, the Maine Central and the Portland Terminal at Boston, Mass., was reported in *Railway Age* of September 6, was born on April 26, 1910, at Boston. Mr. Dunn received his A.B. degree from Dartmouth College in 1932 and his M.S. from the Massachusetts Intitute of Technology in 1941. He entered the service of the Boston & Maine in January, 1935, as a special apprentice after spending summer seasons from 1930 to 1935 with the Mt. Washington cog

Paul C. Dunn

railway in various capacities, including fireman, engineer, mechanic and finally as assistant to president in charge of operations. On completion of his apprenticeship in 1939, Mr. Dunn was appointed traveling mechanical inspector at Boston. From June, 1940, to June, 1941, he was on leave of absence while studying business and engineering administration at Massachusetts Institute of Technology on an Alfred P. Sloan fellowship. In July, 1941, Mr. Dunn was appointed enginehouse foreman at Dover, N. H., and in February, 1942, he became general foreman at East Deerfield, Mass. The following December he was appointed manager of the suggestion system, with headquarters at Boston. In March, 1944, he entered the United States Army as captain in the 752nd Railway Operating Battalion, serving in France, Belgium, Holland and Germany, leaving the Army in January, 1946, as battalion commander of the 764th Railway Shop Battalion, with the rank of major. On return to the Boston & Maine, Mr. Dunn was appointed assistant supervisor Diesel maintenance and operation, which position he held until his recent appointment.

J. H. Saltzgaber, assistant superintendent of equipment of the Cleveland, Cincinnati, Chicago & St. Louis (part of the New York Central system) at Indianapolis, Ind., has been appointed superintendent of equipment, with the same headquarters, succeeding **G. W. Birk,** whose promotion to assistant, general manager of the Big Four district at Indianapolis was reported in *Railway Age* of August 23. **S. T. Kuhn,** master mechanic at Chicago, has been appointed assistant superintendent of equipment, with headquarters at Indianapolis, succeeding Mr. Saltzgaber.

Peter J. Sasgen has been appointed general supervisor of Diesels of the Seaboard Air Line, with headquarters at Jacksonville, Fla. A native of Chicago, Mr.

Peter J. Sasgen

Sasgen has specialized in the Diesel-electric motor field for a number of years. Part of his early training was received in the United States Navy, following which he returned to civilian employment. Re-entering the Navy with the advent of World War II, he was in submarine service and was awarded the Silver Star. After the close of the war he became connected with the Electro-Motive Division of General Motors Corporation, which company he left to go with the Seaboard Air Line.

OBITUARY

Lloyd Crocker, district superintendent of the Atlantic Coast Line, with headquarters at Wilmington, N. C., died on September 2, while at work at the Wilmington station. Mr. Crocker was born at Seaboard, N. C., on September 22, 1883, and entered railroad service on March 5, 1902, as baggage master with the Atlantic Coast Line. He became conductor in 1904, assistant trainmaster in 1924 and trainmaster in 1925. He had been district superintendent at Wilmington since December 1, 1925.

J. H. McGoff, who retired in 1938 as mechanical superintendent of the Atchison, Topeka & Santa Fe, with headquarters at Fort Madison, Iowa, died in that city on July 4.

THIS MAN *Knows*

WHAT GOES ON BEHIND HIS BACK

When the engineman makes a brake application with "HSC" electro-pneumatic brakes, he knows the braking pressure on every car behind him. For the equivalent brake cylinder gage pressure is reproduced and automatically maintained on all cars in the train.

He can increase or decrease pressures quickly, by moving his brake valve handle forward or back. *He can approach restricted zones at a higher speed*, pick up faster when leaving them. He can handle the train smoothly with a consequent increase in passenger comfort.

This is just another of many features and advantages that recommend HSC brakes for your modern equipment. For the utmost in brake control, we recommend:

"HSC" Electro-Pneumatic Brake . . . for brake flexibility to match modern train speeds, and unequaled smooth action. Speed Governor Control . . . for regulating brake forces to wheel speeds. "AP" Decelostat . . . for wheel slip detection to keep the wheels rolling.

Westinghouse Air Brake Co.

WILMERDING, PA.

Freight Operating Statistics of Large Steam Railways—Selected

Region, road and year		Miles of road operated	Train-miles	Locomotive-miles: Principal and helper	Locomotive-miles: Light	Car-miles: Loaded (*thousands*)	Car-miles: Per cent loaded	Ton-miles (*thousands*): Gross excl. locos. & tenders	Ton-miles (*thousands*): Net-rev. and non-rev.	Road locos. on line: Serviceable: Unstored	Road locos. on line: Serviceable: Stored	Road locos. on line: B. O.	Road locos. on line: Per cent B. O.
New England Region:													
Boston & Albany	1947	362	143,685	154,707	17,207	3,305	64.2	213,989	89,665	59	7	24	26.7
	1946	362	148,118	162,924	18,416	3,603	68.0	218,907	91,207	58	..	30	34.1
Boston & Maine	1947	1,750	308,134	315,291	11,269	10,986	71.5	672,210	295,134	99	1	17	14.5
	1946	1,750	290,195	303,049	13,384	11,417	74.2	665,666	290,868	98	18	18	13.4
N. Y., New H. & Hartf*	1947	1,820	361,149	513,440	42,455	13,701	71.2	810,323	357,537	173	2	42	18.5
	1946	1,820	372,985	526,744	37,559	15,122	72.3	849,715	358,897	198	16	55	23.2
Great Lakes Region:													
Delaware & Hudson	1947	794	287,956	345,176	32,001	12,397	70.5	886,095	488,397	122	39	30	15.7
	1946	846	262,191	317,603	33,141	11,498	68.8	786,585	404,720	115	74	26	12.1
Del., Lack. & Western	1947	970	324,005	368,204	44,084	13,910	70.2	920,962	430,858	108	14	19	13.5
	1946	971	296,822	338,729	42,800	13,835	72.0	858,112	387,616	110	28	31	18.3
Erie	1947	2,229	779,255	827,856	59,362	36,590	65.0	2,457,810	1,020,191	262	18	102	26.7
	1946	2,242	702,585	749,596	59,881	35,977	68.9	2,271,649	959,528	270	50	69	17.7
Grand Trunk Western	1947	972	315,054	323,742	2,787	10,227	66.0	677,531	300,327	66	..	11	14.3
	1946	972	254,226	261,745	2,118	8,764	69.6	541,210	229,510	69	2	7	9.0
Lehigh Valley	1947	1,239	317,174	352,882	57,092	13,826	69.3	950,048	470,872	117	11	40	23.8
	1946	1,242	289,314	321,709	48,373	13,875	73.7	892,914	444,037	106	25	38	22.5
New York Central	1947	10,338	3,169,722	3,405,227	231,481	117,752	64.6	8,078,484	3,789,055	1,009	25	356	25.6
	1946	10,328	2,922,336	3,150,826	239,306	120,337	66.0	7,856,939	3,559,009	976	70	347	24.9
New York, Chi. & St. L.	1947	1,656	661,707	668,581	8,807	26,140	65.7	1,708,439	732,842	138	2	22	13.6
	1946	1,656	513,675	521,354	6,879	23,608	72.9	1,407,273	613,062	123	28	30	16.6
Pitts. & Lake Erie	1947	223	104,819	107,568	164	4,385	67.2	367,408	219,232	32	..	15	31.9
	1946	229	88,886	89,702	59	3,824	68.4	319,891	192,899	27	6	18	35.3
Wabash	1947	2,381	614,131	628,712	14,090	22,842	72.5	1,432,207	625,657	166	5	34	16.6
	1946	2,381	638,155	658,304	16,746	23,464	72.9	1,429,317	606,225	157	16	34	16.4
Central Eastern Region:													
Baltimore & Ohio	1947	6,103	2,066,689	2,608,598	299,253	71,426	63.2	5,315,759	2,653,671	851	12	271	23.9
	1946	6,103	1,913,795	2,385,971	253,849	69,531	66.8	4,859,885	2,429,836	794	32	340	29.2
Central of New Jersey*	1947	419	84,471	96,974	18,080	3,578	68.2	265,060	145,479	53	..	31	36.9
	1946	649	156,940	183,153	53,112	6,936	71.5	430,232	222,898	94	3	55	36.2
Central of Pennsylvania	1947	213	84,843	100,372	21,759	3,095	69.5	228,778	126,445	43	..	18	29.5
	1946	.....	.....	.....	.....	.....	.....	.....	.....	..	..	..	...
Chicago & Eastern Ill.	1947	910	174,977	175,469	3,743	5,490	70.5	364,865	181,930	57	1	15	20.5
	1946	910	163,368	166,206	4,240	5,451	70.8	363,335	180,765	52	6	20	25.6
Elgin, Joliet & Eastern	1947	391	117,221	121,600	3,484	3,601	67.7	276,911	151,671	43	6	14	22.2
	1946	392	101,120	104,942	2,698	3,142	68.9	236,318	127,981	40	5	20	30.8
Long Island	1947	372	30,378	31,955	15,661	365	56.7	27,116	12,461	32	1	3	8.3
	1946	372	31,938	33,789	15,094	386	58.4	26,266	11,550	33	..	2	5.7
Pennsylvania System	1947	10,031	3,950,213	4,485,166	631,260	157,562	66.7	11,104,412	5,547,103	1,961	41	254	11.3
	1946	10,033	3,954,148	4,611,045	598,202	164,179	67.3	11,228,299	5,417,775	1,861	81	297	13.3
Reading	1947	1,356	475,134	529,597	64,258	16,897	65.9	1,302,155	721,955	236	24	34	11.6
	1946	1,361	489,087	543,252	62,460	16,487	64.8	1,259,165	683,802	253	14	57	17.6
Pocahontas Region:													
Chesapeake & Ohio	1947	4,981	1,680,753	1,785,177	76,579	73,135	57.9	6,129,848	3,441,598	601	9	102	14.3
	1946	4,978	1,493,823	1,593,549	69,705	69,996	60.8	5,636,043	3,179,684	589	16	85	12.3
Norfolk & Western	1947	2,108	798,308	848,931	60,522	36,982	58.2	3,236,681	1,780,690	259	30	28	8.8
	1946	2,139	740,986	795,333	57,801	36,205	60.0	3,111,702	1,713,937	249	58	35	10.2
Southern Region:													
Atlantic Coast Line	1947	5,556	1,061,523	1,075,130	17,064	26,031	64.5	1,725,002	768,864	380	24	49	10.8
	1946	5,552	1,013,492	1,036,070	15,072	27,828	68.7	1,738,501	779,326	387	29	31	6.9
Central of Georgia*	1947	1,782	289,525	295,580	5,563	7,133	71.4	466,597	221,609	90	4	8	7.8
	1946	1,783	301,656	306,646	5,818	7,692	72.7	485,935	222,608	91	..	8	8.1
Gulf, Mobile & Ohio	1947	2,846	392,465	402,766	407	16,039	70.3	1,044,836	489,432	195	14	14	6.3
	1946	2,846	481,248	532,215	3,290	16,011	75.8	1,009,510	512,902	170	38	27	11.5
Illinois Central	1947	6,582	1,456,311	1,477,948	51,355	53,672	64.3	3,689,188	1,721,853	547	30	93	13.9
	1946	6,601	1,418,978	1,431,629	50,728	54,590	66.5	3,700,644	1,761,229	598	12	98	13.8
Louisville & Nashville	1947	4,759	1,506,225	1,624,649	43,749	37,966	62.3	2,762,078	1,393,983	398	6	76	15.8
	1946	4,750	1,454,381	1,584,903	43,179	39,025	65.6	2,713,452	1,379,050	394	27	72	14.6
Seaboard Air Line	1947	4,145	845,254	894,240	11,177	23,961	66.2	1,600,009	701,991	278	11	60	17.2
	1946	4,139	868,874	915,537	15,135	24,758	69.0	1,586,919	697,699	270	5	57	17.2
Southern	1947	6,451	1,594,806	1,618,866	28,107	42,191	69.6	2,686,730	1,217,946	560	24	109	15.7
	1946	6,450	2,060,602	2,099,756	36,225	50,157	72.2	3,044,480	1,392,834	613	4	109	15.0
Northwestern Region:													
Chi. & North Western	1947	8,061	975,368	1,012,182	28,822	32,847	73.3	2,135,695	985,410	354	2	119	25.1
	1946	8,062	974,941	1,015,662	22,395	31,714	68.3	2,118,872	903,849	355	13	133	26.5
Chicago Great Western	1947	1,445	231,553	236,735	11,136	7,717	71.7	494,884	225,296	69	..	16	18.8
	1946	1,445	222,933	226,068	8,227	7,134	71.6	448,339	195,181	65	2	12	15.2
Chi., Milw., St. P. & Pac.	1947	10,725	1,356,464	1,426,712	58,643	45,837	69.8	2,991,629	1,387,944	464	35	102	17.0
	1946	10,725	1,285,537	1,368,550	55,263	44,614	66.2	2,971,791	1,350,377	442	78	74	12.5
Chi., St. P., Minneap. & Om.	1947	1,606	192,720	206,466	11,813	5,137	74.4	330,226	150,768	84	..	31	27.0
	1946	1,606	183,812	192,247	10,962	4,917	70.9	317,831	139,342	82	3	34	28.6
Duluth, Missabe & Iron Range	1947	547	162,057	162,437	748	8,909	50.9	819,094	498,248	46	..	2	4.2
	1946	546	134,768	135,195	916	7,434	51.5	688,941	423,003	47	..	1	2.1
Great Northern	1947	8,237	939,047	942,124	36,195	37,914	67.2	2,778,524	1,414,163	315	50	67	15.5
	1946	8,236	954,630	955,955	44,980	36,524	61.8	2,716,894	1,309,678	342	71	79	16.1
Minneap., St. P. & S. St. M.	1947	4,181	431,757	443,518	9,360	12,497	69.1	835,565	407,851	122	..	11	8.3
	1946	4,181	426,203	436,814	7,165	12,072	67.2	813,635	387,562	126	..	12	8.7
Northern Pacific	1947	6,623	785,883	827,196	49,186	30,111	69.9	2,030,317	951,374	335	53	45	10.4
	1946	6,576	832,713	887,744	55,165	29,498	65.6	2,068,091	962,473	332	41	65	14.8
Central Western Region:													
Atch., Top. & S. Fe. (incl. G. C. & S. F. & P. & S. F.)	1947	13,107	3,105,020	3,326,906	192,074	114,586	63.8	7,877,092	2,922,675	808	51	99	10.3
	1946	13,085	3,008,108	3,194,775	196,564	111,106	66.7	7,357,577	2,826,231	792	43	146	14.9
Chi. Burl. & Quincy	1947	8,671	1,125,509	1,173,735	48,976	44,848	70.1	3,022,191	1,458,594	388	10	84	17.4
	1946	8,671	1,135,053	1,175,057	41,254	43,534	68.4	2,872,737	1,332,174	394	67	75	14.0
Chi. Rock I. & Pac.*	1947	7,619	1,353,147	1,388,633	17,756	42,531	64.8	2,876,060	1,248,311	312	..	91	22.6
	1946	7,615	1,268,518	1,305,344	16,698	40,844	63.6	2,698,605	1,125,886	358	7	88	19.4
Denver & R. G. Wn.	1947	2,467	354,830	396,314	48,023	11,504	76.2	765,800	386,647	141	66	38	15.5
	1946	2,491	342,308	387,996	44,525	10,610	76.8	671,530	328,416	147	43	48	20.2
Southern Pacific Company	1947	8,159	2,296,259	2,582,282	523,777	92,167	67.3	6,115,199	2,422,426	802	2	199	19.8
	1946	8,171	2,349,980	2,653,889	445,475	94,411	67.9	6,156,321	2,419,125	778	4	194	19.9
Union Pacific	1947	9,775	2,316,355	2,450,975	227,510	88,513	68.5	6,011,479	2,604,299	650	85	96	11.6
	1946	9,775	2,189,174	2,288,281	172,568	84,197	70.7	5,304,704	2,230,275	612	143	124	14.1
Southwestern Region:													
Mo.-Kans.-Texas Lines	1947	3,241	623,897	637,286	8,528	16,752	65.0	1,131,782	515,526	129	..	37	22.3
	1946	3,241	571,386	591,312	10,022	16,446	67.2	1,055,499	467,620	121	..	47	28.0
Missouri Pacific*	1947	6,985	1,474,277	1,533,623	35,546	47,853	65.5	3,200,830	1,389,772	413	2	73	15.0
	1946	7,053	1,331,526	1,387,735	33,110	46,275	69.1	2,982,412	1,336,580	435	..	65	13.0
Texas & Pacific	1947	1,871	510,476	517,798	7,100	16,346	61.2	1,147,839	449,770	103	25	11	7.9
	1946	1,871	433,435	433,435	8,696	13,721	67.1	908,675	364,311	111	37	6	3.9
St. Louis-San Francisco	1947	4,615	1,015,263	1,059,358	12,089	24,952	65.0	1,746,880	804,791	278	18	31	9.5
	1946	4,615	900,090	954,723	10,644	22,738	71.3	1,446,990	666,817	304	11	26	7.6
St. Louis-San Fran. & Texas	1947	156	35,421	35,883	48	741	65.1	53,951	23,947	10	..	2	16.7
	1946	156	43,307	46,251	6	798	70.8	54,574	25,200	9	..	1	10.0
St. Louis Southw. Lines*	1947	1,568	384,946	389,831	5,241	14,642	72.9	876,363	391,746	86	10	13	11.9
	1946	1,568	366,026	368,954	4,924	14,880	79.7	811,427	362,719	89	29	18	13.2
Texas & New Orleans	1947	4,318	910,813	911,171	18,195	24,599	70.5	1,596,958	700,815	215	..	36	14.3
	1946	4,321	920,442	922,674	14,270	26,312	75.2	1,606,455	714,060	221	2	42	15.8

* Report of trustee or trustees.

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

Items for the Month of June 1947 Compared with June 1946

Region, road and year		Freight cars on line: Home	Foreign	Total	Per Cent B. O.	G.t.m. per train-hr. excl.locos. and tenders	G.t.m. per train-mi. excl.locos. and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd. car-mile	Net ton-mi. per car-day	Car miles per car-day	Net daily ton-mi. per road-mi.	Coal lb. per 1000 g.t.m. inc. loco.	Mi. per loco. per day
New England Region:														
Boston & Albany	1947	244	5,223	5,467	0.2	24,320	1,498	628	27:1	543	31.2	8,256	172	71.4
	1946	306	5,175	5,481	0.7	22,565	1,487	619	25.3	539	31.3	8,389	183	76.9
Boston & Maine	1947	1,281	10,510	11,719	2.1	33,658	2,187	960	26.9	829	43.2	5,622	113	92.0
	1946	1,988	11,348	13,336	2.7	34,070	2,297	1,004	25.5	761	40.2	5,540	102	83.1
N. Y., New H. & Hartf*	1947	1,438	18,504	19,942	1.9	32,055	2,250	993	26.1	601	32.4	6,548	89	80.5
	1946	2,538	18,272	20,810	3.5	31,716	2,286	966	23.7	597	34.8	6,573	87	76.8
Great Lakes Region:														
Delaware & Hudson	1947	1,980	6,962	8,942	3.7	55,326	3,092	1,704	39.4	1,784	64.2	20,504	97	68.9
	1946	3,648	6,637	10,285	6.1	53,252	3,041	1,551	35.2	1,426	58.9	15,946	99	55.6
Del., Lack. & Western	1947	5,002	14,076	19,078	3.7	43,228	2,886	1,350	31.0	774	35.6	14,806	106	108.6
	1946	5,073	12,959	18,032	4.4	43,113	2,935	1,326	28.0	689	34.1	13,306	110	83.4
Erie	1947	5,080	25,839	30,919	3.7	52,768	3,183	1,321	27.9	1,116	61.6	15,256	92	84.4
	1946	9,048	25,881	34,929	4.0	49,975	3,255	1,375	26.7	918	50.0	14,266	93	75.5
Grand Trunk Western	1947	3,902	9,573	13,475	6.2	45,163	2,180	966	29.4	769	39.7	10,299	84	156.4
	1946	4,207	9,266	13,473	8.9	42,984	2,142	908	26.2	567	31.1	7,871	83	122.8
Lehigh Valley	1947	5,107	13,819	18,926	5.3	54,328	3,084	1,529	34.1	830	35.2	12,668	100	85.2
	1946	7,152	13,568	20,720	6.8	51,850	3,176	1,579	32.0	784	33.3	11,917	100	77.2
New York Central	1947	42,728	97,894	140,622	3.6	41,195	2,585	1,212	32.2	883	42.5	12,217	103	97.3
	1946	55,764	103,826	159,590	4.6	41,980	2,732	1,237	29.6	753	38.6	11,487	100	89.0
New York, Chi. & St. L.	1947	2,017	13,209	15,226	1.2	51,700	2,590	1,111	28.0	1,544	83.9	14,751	83	147.3
	1946	2,649	12,186	14,835	3.5	51,388	2,755	1,200	26.0	1,358	71.8	12,340	82	102.3
Pitts. & Lake Erie	1947	2,507	11,149	13,656	5.4	53,025	3,524	2,103	50.0	530	15.8	32,770	93	82.7
	1946	3,573	9,733	13,306	6.4	55,730	3,601	2,171	50.4	436	12.6	28,078	84	64.6
Wabash	1947	4,984	15,073	20,057	4.1	46,617	2,357	1,030	27.4	1,063	53.5	8,759	103	109.2
	1946	5,671	15,910	21,581	3.0	44,831	2,262	959	25.8	979	51.9	8,487	102	112.6
Central Eastern Region:														
Baltimore & Ohio	1947	36,928	50,793	87,721	5.2	33,191	2,625	1,310	37.2	1,004	42.7	14,494	141	87.9
	1946	35,783	45,805	81,588	6.1	32,732	2,601	1,301	34.9	950	40.7	13,271	141	78.0
Central of New Jersey*	1947	591	10,509	11,100	2.7	39,567	3,220	1,767	40.7	452	16.3	11,574	127	69.8
	1946	4,711	11,409	16,120	6.9	32,138	2,833	1,468	32.1	466	20.3	11,448	117	65.9
Central of Pennsylvania	1947	1,074	3,815	4,889	7.0	37,067	2,810	1,553	40.9	885	31.2	19,788	141	76.5
	1946	....	....	....	....	....	....	....	....	....	....	....	....	....
Chicago & Eastern Ill.	1947	1,867	4,202	6,069	4.9	37,603	2,123	1,059	33.1	1,014	43.4	6,664	104	85.0
	1946	1,924	3,909	5,833	6.2	38,801	2,289	1,139	33.2	928	39.5	6,621	105	75.3
Elgin, Joliet & Eastern	1947	6,153	10,216	16,369	2.1	19,181	2,504	1,372	42.1	307	10.8	12,930	117	96.3
	1946	7,461	10,434	17,895	2.7	20,188	2,502	1,355	40.7	250	8.9	10,883	136	74.7
Long Island	1947	47	4,443	4,490	1.0	6,849	909	418	34.1	92	4.8	1,117	361	58.8
	1946	48	5,386	5,434	.2	6,712	841	370	29.9	78	4.5	1,035	346	70.9
Pennsylvania System	1947	110,426	131,282	241,708	9.9	39,673	2,913	1,455	35.2	763	32.5	18,433	123	81.9
	1946	126,854	125,532	252,386	7.8	39,020	2,939	1,418	33.0	723	32.6	18,000	116	83.7
Reading	1947	8,023	24,958	32,981	2.6	36,708	2,746	1,522	42.7	724	25.7	17,747	101	77.0
	1946	11,880	21,949	33,829	2.8	34,136	2,579	1,401	41.5	676	25.1	16,748	106	71.5
Pocahontas Region:														
Chesapeake & Ohio	1947	49,914	30,674	80,588	1.6	57,963	3,709	2,083	47.1	1,423	52.2	23,032	74	93.9
	1946	42,731	33,162	75,893	2.2	55,945	3,847	2,171	45.4	1,373	49.7	21,292	71	86.0
Norfolk & Western	1947	29,716	7,070	36,786	2.8	66,587	4,126	2,270	48.2	1,622	57.9	28,158	89	103.1
	1946	25,473	8,526	33,999	1.8	66,467	4,260	2,346	47.3	1,587	55.9	26,709	82	90.1
Southern Region:														
Atlantic Coast Line	1947	7,744	19,283	27,027	4.1	26,790	1,633	728	29.5	924	48.5	4,613	121	85.9
	1946	8,536	20,203	28,739	3.2	27,506	1,732	776	28.0	853	44.3	4,679	112	84.2
Central of Georgia*	1947	1,794	6,591	8,385	2.7	29,849	1,616	768	31.1	899	40.5	4,145	131	105.9
	1946	1,846	6,494	8,340	1.6	29,882	1,615	740	28.9	893	42.4	4,162	128	110.3
Gulf, Mobile & Ohio	1947	2,443	13,332	15,775	1.5	48,408	2,668	1,250	30.5	1,013	47.2	5,732	57	69.3
	1946	3,223	12,788	16,011	1.3	33,105	2,119	1,077	32.0	1,098	45.2	6,007	98	83.5
Illinois Central	1947	14,662	38,667	53,329	1.4	44,112	2,599	1,213	32.1	1,109	53.7	8,720	116	80.5
	1946	11,083	35,201	46,284	1.5	45,080	2,673	1,272	32.3	1,198	55.8	8,894	111	74.6
Louisville & Nashville	1947	24,603	15,936	40,539	4.4	28,726	1,834	925	36.7	1,131	49.4	9,764	122	121.5
	1946	24,988	14,737	39,725	4.6	29,570	1,867	949	35.3	1,015	43.8	9,678	119	114.6
Seaboard Air Line	1947	5,557	16,552	22,109	1.8	34,120	1,942	852	29.3	1,038	53.5	5,645	113	95.1
	1946	5,843	18,421	24,364	2.1	32,969	1,883	828	28.2	933	48.0	5,619	114	102.4
Southern	1947	13,034	32,752	45,786	5.1	29,449	1,703	772	28.9	877	43.6	6,293	126	83.6
	1946	15,028	34,027	49,055	5.0	25,907	1,503	687	27.8	939	47.1	7,198	137	102.5
Northwestern Region:														
Chi. & North Western	1947	17,807	34,849	52,656	3.6	32,603	2,319	1,070	30.0	632	28.7	4,075	123	79.4
	1946	19,732	34,487	54,219	3.2	34,584	2,258	963	28.5	566	29.1	3,737	123	74.2
Chicago Great Western	1947	1,080	5,615	6,695	2.4	32,926	2,151	979	29.2	1,224	58.5	5,197	125	104.7
	1946	1,108	4,173	5,281	5.2	35,013	2,015	877	27.4	1,175	60.0	4,502	121	103.9
Chi., Milw., St. P. & Pac.	1947	19,047	37,234	56,281	2.0	34,857	2,225	1,032	30.3	812	38.4	4,314	116	89.0
	1946	22,787	35,700	58,487	1.5	37,274	2,334	1,061	30.3	785	39.2	4,197	111	85.4
Chi., St. P., Minneap. & Om.	1947	959	7,117	8,076	6.7	22,975	1,756	802	29.3	647	29.6	3,129	114	71.3
	1946	1,154	7,243	8,397	5.8	23,210	1,760	771	28.3	565	28.1	2,892	115	61.0
Duluth, Missabe & Iron Range	1947	14,656	477	15,133	1.5	91,529	5,226	3,179	55.9	1,104	38.7	30,362	58	133.0
	1946	14,252	373	14,625	2.2	88,553	5,240	3,217	56.9	951	32.4	25,824	63	108.0
Great Northern	1947	19,773	23,566	43,339	2.8	47,843	2,980	1,517	37.3	1,036	41.3	5,723	86	79.5
	1946	22,207	19,361	41,568	3.9	46,799	2,869	1,383	35.9	1,018	45.9	5,301	89	72.4
Minneap., St. P. & S. St. M.	1947	5,768	8,894	14,662	7.7	33,587	1,960	956	32.6	943	41.9	3,252	89	122.4
	1946	6,112	9,001	15,113	3.1	33,312	1,929	919	32.1	844	39.1	3,090	91	107.1
Northern Pacific	1947	16,685	19,655	36,340	5.2	44,430	2,607	1,222	31.6	875	39.6	4,788	130	73.6
	1946	16,722	18,144	34,866	4.8	41,485	2,502	1,165	32.6	941	43.9	4,879	131	77.9
Central Western Region:														
Atch., Top. & S. Fe. (incl.	1947	37,455	44,984	82,439	5.0	48,969	2,555	948	25.5	1,179	72.5	7,433	99	128.3
G. C. & S. F. & P. & S. F.)	1946	40,886	41,744	82,630	4.7	47,479	2,460	945	25.4	1,151	67.8	7,200	101	121.4
Chi. Burl. & Quincy	1947	13,451	32,662	46,113	2.6	41,699	2,702	1,304	32.5	1,067	46.8	5,607	101	87.2
	1946	15,614	26,147	41,761	2.8	42,719	2,541	1,178	30.6	1,063	50.8	5,121	100	79.7
Chi. Rock I. & Pac.*	1947	9,649	28,970	38,619	2.5	36,129	2,138	928	29.4	1,078	56.7	5,461	100	121.3
	1946	9,964	28,102	38,066	4.1	38,094	2,146	895	27.6	1,009	57.5	4,928	99	100.7
Denver & R. G. Wn.	1947	7,071	5,139	12,210	5.2	37,209	2,174	1,098	33.6	1,058	41.3	5,224	162	64.4
	1946	7,136	5,368	12,504	5.7	34,585	1,973	965	31.0	892	37.5	4,395	166	65.1
Southern Pacific Company	1947	21,413	40,877	62,290	3.3	41,644	2,696	1,068	26.3	1,251	70.7	9,897	100	110.6
	1946	23,313	50,008	73,321	3.1	39,798	2,645	1,039	25.6	1,113	63.9	9,869	99	113.1
Union Pacific	1947	25,780	32,646	58,426	3.5	52,811	2,643	1,145	29.4	1,549	76.8	8,881	124	111.3
	1946	26,567	30,685	57,252	3.8	49,513	2,467	1,037	26.5	1,312	70.1	7,605	122	95.5
Southwestern Region:														
Mo.-Kans.-Texas Lines	1947	1,252	9,463	10,715	.8	32,728	1,841	839	30.8	1,587	79.4	5,302	82	139.3
	1946	1,635	10,913	12,548	1.0	35,485	1,868	827	28.4	1,301	68.1	4,809	77	128.0
Missouri Pacific*	1947	16,447	29,849	46,296	1.5	39,273	2,183	948	29.0	1,033	54.3	6,632	106	113.2
	1946	14,686	27,707	42,393	1.4	39,311	2,255	1,011	28.9	1,053	52.7	6,317	102	99.9
Texas & Pacific	1947	1,286	9,273	10,559	2.1	42,119	2,281	894	27.5	1,508	89.5	8,013	90	130.2
	1946	1,169	6,759	7,928	1.9	42,850	2,145	860	26.6	1,572	88.3	6,490	88	99.5
St. Louis-San Francisco	1947	4,246	18,371	22,617	2.1	33,454	1,732	798	32.3	1,228	58.5	5,813	120	115.1
	1946	4,302	14,342	18,644	1.9	31,815	1,618	746	29.3	1,146	54.8	4,816	122	99.6
St. Louis-San Fran. & Texas	1947	....	564	564	4.6	27,911	1,533	681	32.3	1,550	73.7	5,117	114	101.4
	1946	....	308	308	2.3	23,503	1,263	583	31.6	2,157	96.4	5,385	111	164.4
St. Louis Southw. Lines*	1947	1,184	6,500	7,684	2.7	44,712	2,279	1,019	26.8	1,831	93.8	8,328	74	127.3
	1946	1,127	6,452	7,579	2.2	41,930	2,222	993	24.4	1,615	83.1	7,711	79	98.5
Texas & New Orleans	1947	2,857	16,423	19,280	2.1	35,636	1,772	777	28.5	1,220	60.7	5,410	85	128.2
	1946	3,377	17,999	21,376	3.5	32,764	1,763	784	27.1	1,117	54.7	5,508	87	123.6

Current Publications

Trade Publications

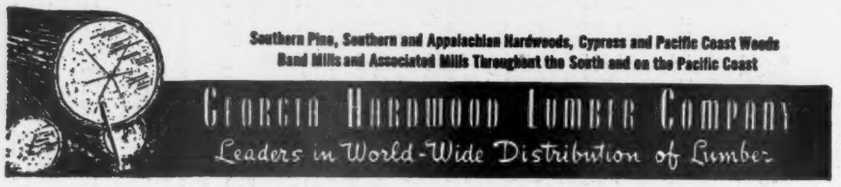
Power Shovel Dippers — Shovel and Dragline Parts, Bulletin 547-DS, 1947, 40 pages. Published by the American Manganese Steel Division, American Brake Shoe Company, Chicago Heights, Ill. Free.

This profusely-illustrated bulletin contains detailed descriptions of all Amsco dippers—among others the all-manganese steel welded type, the renewable-lip type, and the Missabe type. Cross-sectional drawings and X-ray photographs emphasize important features of design and construction. In addition to the descriptions of dippers, the bulletin deals in some detail with the application of manganese steel parts to maintenance and breakdown problems. A section is devoted to a discussion of austenitic manganese steel—supported by charts, photomicrographs, and comparative tables.

Magnus Bearings. 74 pages. Published by the Magnus Metal Corporation, Railway Exhange Building, Chicago 4.

This catalogue, prepared under the supervision of R. J. Shoemaker, chief engineer, describes Satco and babbitt bearing metals, and lubricating devices. It contains historical and technical data covering Magnus products, as well as instructions for their most effective use in railway service.

WEDGY SAYS
"GHL is an Ol' Timer on *any* Railroad anywhere!"
"Yes sir, when it comes to railroads and railroad materials GHL is an ol' timer. We know from experience how exacting railroad material specifications can be—that it takes a tremendous lot of top-grade know-how and supervision to supply the huge and exacting railroad demand for lumber and timber products.
"GHL's Railroad Materials Department has been providing America's railroad needs for two decades . . . including the critical war period. Over the years they have found GHL a prompt, dependable source of supply.
"GHL quality products and service are as nearby as your telephone."
Wedgy


Southern Pine, Southern and Appalachian Hardwoods, Cypress and Pacific Coast Woods
Band Mills and Associated Mills Throughout the South and on the Pacific Coast
Georgia Hardwood Lumber Company
Leaders in World-Wide Distribution of Lumber
General Offices Augusta, Ga. Division Offices New York, Washington, Houston, Portland
And in Other Principal Cities Throughout the World

Books

Industrial Apprenticeship, by Paul Bergevin. 280 pages. Published by McGraw-Hill Book Company, 330 W. 42nd st., New York 18. Price, $2.75.

This book presents fundamental principles and the best practices of apprentice training used successfully by leading manufacturers in plants and schools. Chapters include: a short history of apprenticeship; the principles of industrial apprenticeship; planning and administering an apprentice program; shop instruction; selection of apprentices and organizing and evaluating the apprentice program.

Ruler of the Reading: the Life of Franklin B. Gowen, 1836-1889, by Marvin W. Schlegel. 308 pages. Published by the Archives Publishing Company of Pennsylvania, Inc., 410 Dauphin Building, Harrisburg, Pa. Price, $4.

In addition to being a biography of Franklin Gowen, this book is a biography of the Reading railroad, and is likewise a history of developments in the anthracite industry. In his foreword to the book, the present president of the Reading, R. W. Brown, says "If Franklin B. Gowen . . . had been living in our time, his activities would undoubtedly have resulted in his having been brought before the Federal Trade Commission, the Interstate Commerce Commission, the National Labor Relations Board, and half a dozen other alphabetical agencies. On the other hand, it is certain that Mr. Gowen would have been in favor of those agencies. In fact, he was one of the first railroad executives to advocate the Interstate Commerce Commission. He, likewise, approved the principle of collective bargaining, though he had his troubles with labor and the budding union movement of his day. He was responsible for the first written labor contract in the mining industry of this country, and for the first important use of arbitration to settle a wage dispute. He set up the first non-contributing system of workmen's compensation in the anthracite industry, if not in the United States. . . . This is an interesting book, especially to anyone interested in the history of the American railroad as an institution. It has many valuable sidelights on other aspects of our American economy and its connections with the growing system of National transportation in those lusty years of the 70's and 80's."

Oliphant's Earning Power of Railroads, Forty-second issue, 1947, edited by Floyd W. Mundy. 550 pages, maps. Compiled by Jas. H. Oliphant & Co., 61 Broadway, New York 6, N. Y. Price, $5.

This standard reference manual contains tables which enable comparative study of 92 railroads, and provide data on capital structure, earnings, traffic, etc., with significant ratios computed. Notes supply extensive information regarding dividend payments, fixed charges, bond issues, debt reduction, maintenance of way and equipment, revenue from different commodities, and other subjects.